

**KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**COLLEGE OF HUMANITIES AND SOCIAL SCIENCE**

**SCHOOL OF BUSINESS**

**KNUST**

**THESIS TOPIC: DETERMINANTS OF FINANCIAL PERFORMANCE OF LIFE  
AND NON-LIFE INSURANCE COMPANIES IN GHANA**

**BY**

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REQUIREMENTS FOR THE AWARD OF THE DEGREE OF  
MASTER OF BUSINESS ADMINISTRATION IN FINANCE**

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## DECLARATION

I hereby declare that this submission is my own work toward the award of the Master of Business Administration in Finance and that to the best of my knowledge, it contains no material previously published by another person, nor material which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text.

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## DEDICATION

This piece of work is dedicated to the God Almighty for his countless mercies throughout this programme and also to my late mother, Christiana Yaa Amoaah of blessed memory.

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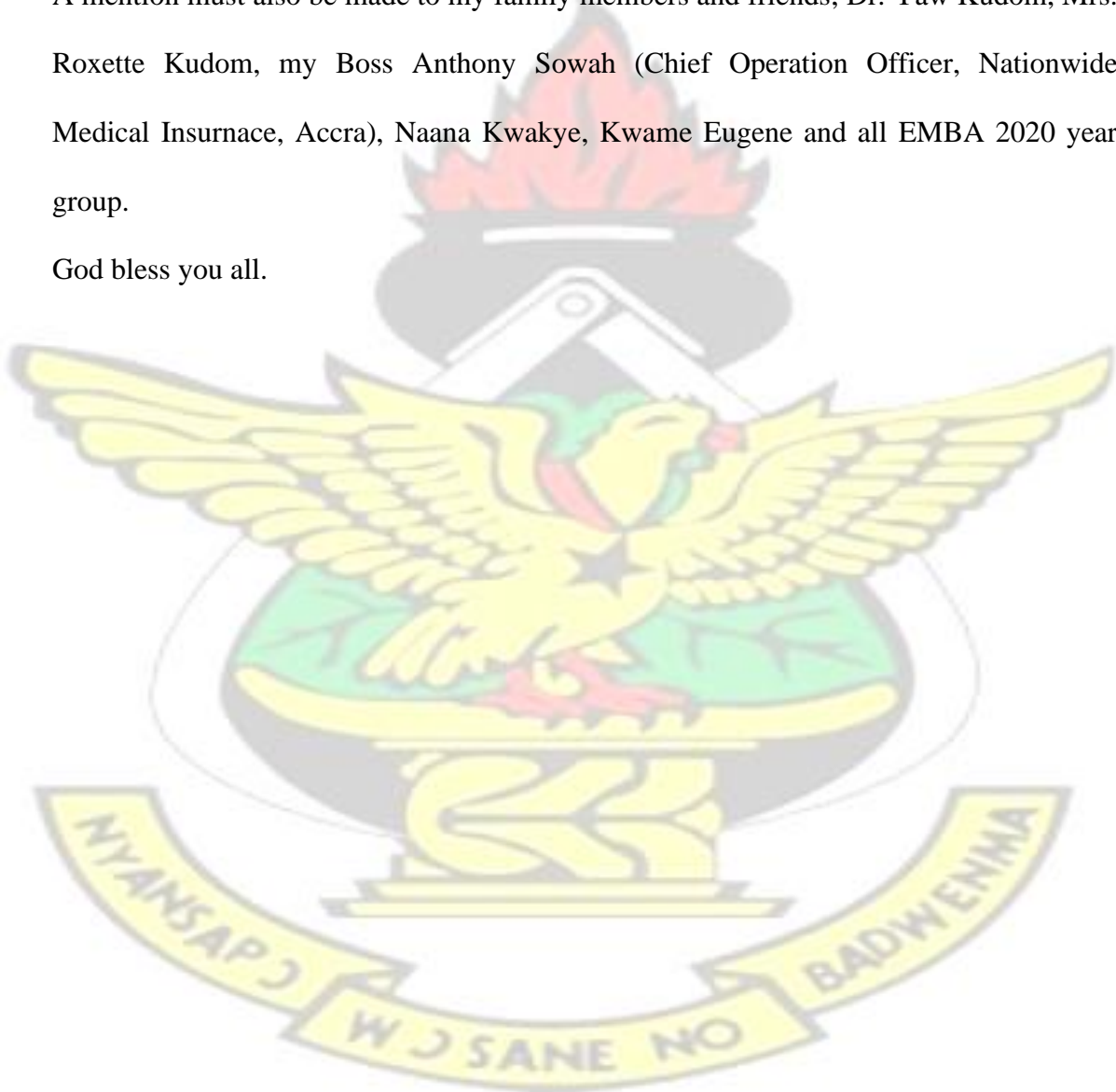
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God bless you all.

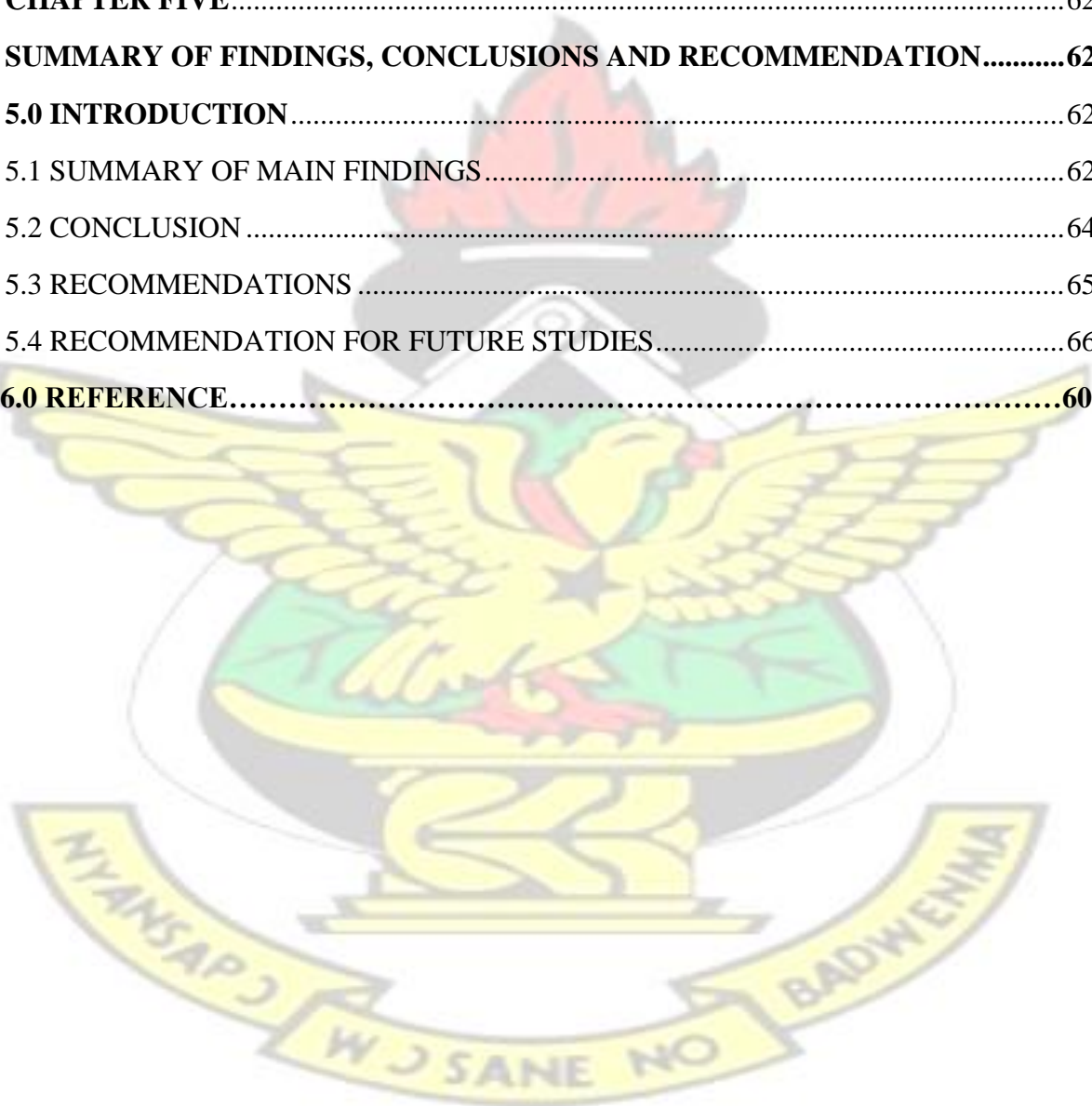


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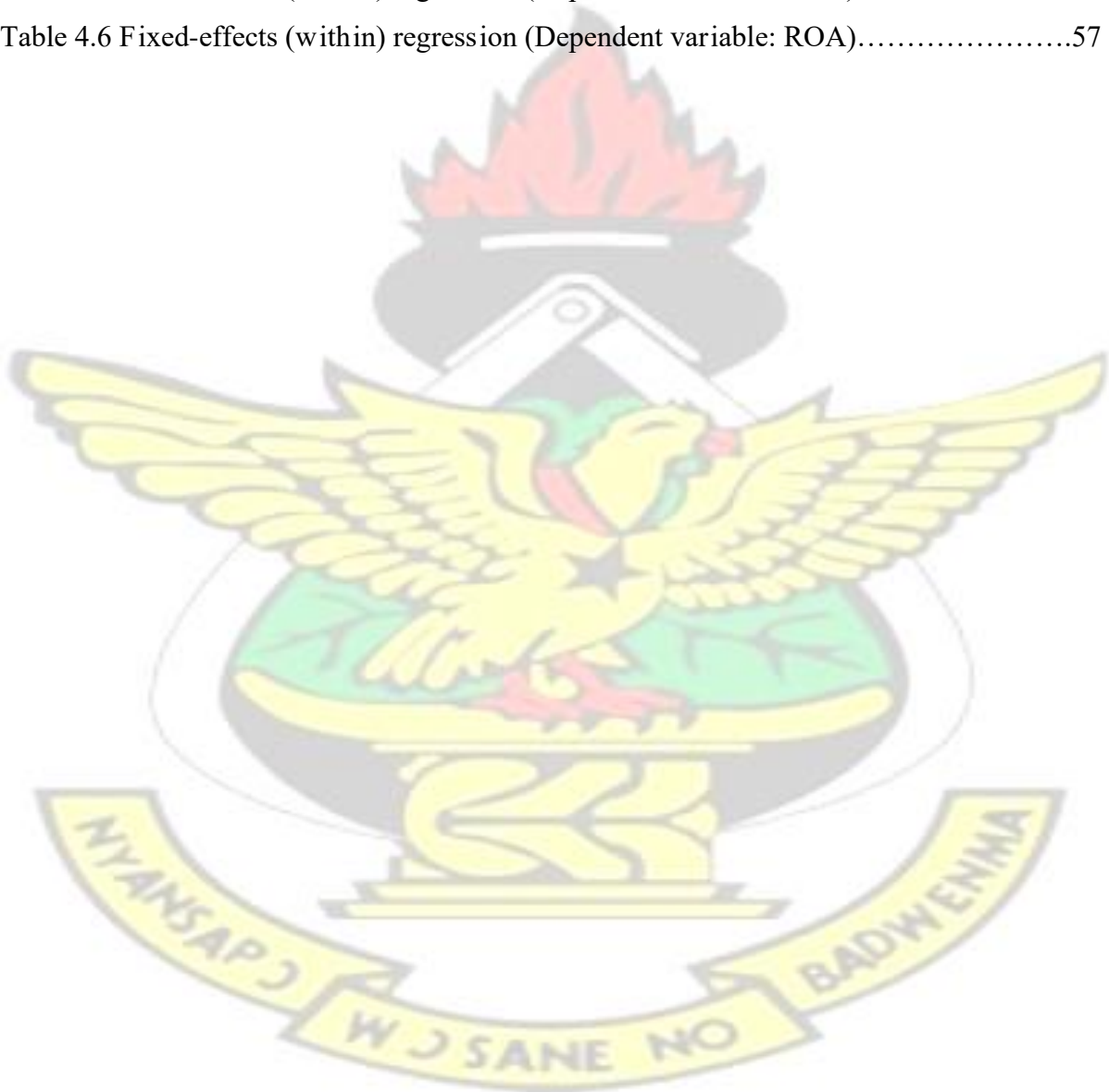


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## **Abstract**

This study examines the determinants of financial performance of the insurance industry in Ghana. The study employs annual financial data from 2012 to 2016 from ten insurance companies which underwrite all types of business policies in both life and non-life insurance. The study employs Random and Fixed effect regression analysis to predict the effect of the predictive variables on the financial performance of life and non-life insurance companies in Ghana. The study finds evidence that tangibility, size, leverage, gross written premium (GWP) and liquidity of both life and non-life insurance companies are the predictors of their profitability suggesting that a rise in any of these predictive variables can have substantial influence on the profitability of the Ghanaian insurance companies employed in the study. The results revealed positive and significant relationship between tangibility and profitability of both life and non-life insurance companies. The findings also showed a positive and significant relationship between life and non-life insurance companies' size and return on assets. The results showed positive and statistically significant relationship between gross written premium (GWP) and profitability (return on assets, ROA) of both life and non-life insurance companies. The findings also show positive and significant relationship between liquidity and profitability of both life and non-life insurance companies. The results however revealed a negative and significant relationship between life and non-life insurance companies' leverage ratio and financial performance (return on assets).



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## CHAPTER ONE

### INTRODUCTION

#### 1.1 BACKGROUND OF THE STUDY

Insurance companies provide unique financial services to the growth and development of every economy. Such specialized financial services range from the underwriting of risks inherent in economic entities and the mobilization of large amount of funds through premiums for long term investments. The risk absorption role of insurers promotes financial stability in the financial markets and provides a sense of peace to economic entities. The insurance companies' ability to cover risk in the economy hinges on their capacity to create profit or value for their shareholders. A well developed and evolved insurance industry is a boon for economic development as it provides long- term funds for development (Charumathi, 2012; (Ahmed, Ahmed, and Ahmed, 2010; and Agiobenebo and Ezirim, 2002).

Over the past years, insurance companies have contributed significantly to the financial services that led to the economic development of every nation. A greater number of countries in the world have recently gone through significant changes in the importance of services and the role of the services sector in their nation (Sharma, 2002; Nankervis and Pearson, 2002; Edwards and Croker, 2001). The section responsible for the financial service sector which can be classified into Insurance, Banking and Capital Markets are becoming important in terms of quality from the numerous stakeholders that involved in various roles in the process for transformation. There has been a significant contribution that the insurance industry has added to the financial services sector of Ghana. These services comprises of the underwriting of risks inherent in economic entities and the mobilization of huge amounts of funds by way of premiums for long term

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investment. The businesses in every nation are secured with the responsibility that insurance companies absorb.

The responsibility of insurance companies absorbing risks in an economy goes a long way to improving the financial stability in the economy's financial markets. This makes entities more secured in their operations on the part of decisions concerned with risk. Insurance companies provide the mechanism of risk transfer and also they channelize the funds to support the business activities in the economy. The world of business without insurance cannot be sustainable because businesses with high risk would not have the edge to accommodate all various kinds of risks in the economy (Ahmed, Ahmed, and Ahmed, 2010). The shareholders of insurance companies do not get the value or profit they require since the insurance companies continue to cover risk. There are many factors influencing the success of the insurance companies.

In recent times, there have been more visits, inspections and coupled by a risk based assessment of insurers' activities by the National Insurance Commission, the regulatory body of the Ghanaian insurance sector. These monitoring is done to ensure better financial performance of insurance companies in Ghana. These factors can be internal and external factors. The insurer's specific characteristics are the internal factors whilst the industrial characteristics and macroeconomic elements form the external factors. According to a study conducted by Ahmed et al (2010) on the determinants of performance, it indicated that size, risk and leverage are important determinations of performance of life insurance companies of Pakistan. For insurers, performance is affected by factors including actual mortality experience, capital gains or losses, the scale of policyholder dividends, investment earning and taxes. Kasturi (2006) argued that the performance of insurance company in financial terms is mostly expressed in net premium earned,

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profitability from underwriting activities, annual turnover, return on investment and return on equity. Profit does not improve upon insurers' solvency state but it also plays an important role in convincing the shareholders and policyholders to supply funds to insurance firms. This draws the attention to one of the major objective of the management of insurance companies, being able to make profits from the business activities they conduct.

The developing competition and financial crises in insurance industries in Ghana has rekindled the importance of assessing the determinants of insurers' performance on the premise that a successful insurance industry is important to create a resilient financial market. With emerging market like Ghana, very little is known about the insurance industry as far as the topic is concerned. Other empirical studies on business performance have focused mainly on large firms and on listed companies. The focus of this research is to address this gap by identifying some of the determinants of financial performance of the insurance companies in Ghana to help insurance firms increase performance in their business operations in their quest to manage risk.

## **1.2 PROBLEM STATEMENT**

There has been significant attention given to financial performance by Scholars in various areas in the field of business and strategic management. It has also been the primary concern of business practitioners in all types of organizations since financial performance has implications to a company's health and its survival. Financial performance on the Ghanaian insurance market remains a big challenge to the insurance industry. High performance reflects management effectiveness and efficiency in making the use of an organization's resources; this contributes to the economy at large (Naser, and Mokhtar, 2004). In Ghana, insurance companies contribute to the greater share of financial intermediation process of the nation. Their success means the

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success of the nation; their failure means failure to the economy (Ansah-Adu, Andoh, and Abor, 2012).

The identification of relevant indicators of insurance companies would facilitate the design of policies that may improve the profitability of the insurance sector. These availability and easiness to access financial performance data in the insurance industry is a challenge. As at 2017 the available Annual Report on insurance companies in Ghana from the National Insurance Commission (NIC) available is that of 2013 Annual Report. These does not facilitate management, investors, stakeholders, financial market analysts, insurance regulators to address the challenges of everyone and the implementation of good practices that will help improve the insurance industry.

Anderson and Reeb (2003) sought to examine the determinants of the financial performance of insurance companies in Ghana. They established that Return on assets (ROA), the dependent variable is the profit before interest and tax expressed as a percentage of total assets. However, much was not concluded about the independent variables of the size of the firm, tangibility, liquidity etc.

Even though there is available literature in the developed economies in this subject area, a common conclusion has not been able to be reached from past literature concerning the factors which determine financial performance of life and non-life insurance companies in Ghana. This study therefore seeks to bridge this gap.

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### 1.3 OBJECTIVES OF THE STUDY

The study aims to establish the determinants of financial performance of life and non-life insurance companies in Ghana. The following specific objectives would help in achieving the aims of the study:

1. To examine the effect of size and liquidity on financial performance of insurance companies.
2. To determine whether retention ratio and gross written premium of insurance companies determines their financial performance.
3. To determine whether leverage of insurance companies determines their financial performance.
4. To examine whether tangibility determines financial performance of insurance companies.

### 1.4 RESEARCH QUESTIONS

While studying the determinants of profitability within the insurance industry, the following questions shall be addressed:

1. Does the size and liquidity of insurance companies have effect on their financial performance?
  2. What is the effect of retention ratio and gross written premium on the insurance companies' financial performance?
  3. How does leverage of insurance companies affect their financial performance?
  4. What is the effect of tangibility on the financial performance of insurance companies?
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## **1.5 SIGNIFICANCE OF THE STUDY**

The outcome of this study will help the management of insurance companies to know the determinants of financial performance in the insurance industry.

It will serve as a tool to appraise insurance company's stability that is critical in the risk based supervisory framework.

The study will be useful to insurance regulators, academics, investors by given a clear view to financial performance and insurance practices.

This research will enable the government to report the annual performance of the insurance companies in Ghana in time.

## **1.6 ORGANIZATION OF THE STUDY**

This research will be categorized into five chapters.

Chapter one will introduce the study by giving a background that sets the topic into perspective; the first chapter will provided the problem statement, objectives, significance and hypotheses of the study.

Chapter two will be review of literature on the issues discussed. The definitions concerning the study and constructs will be mentioned in this chapter.

Chapter three will comprise of the research methodology.

Chapter four will depict the presentation of the analysis, the results and discussion on the findings.

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The final chapter, chapter five will be showing the conclusions by summarizing the findings and recommendation from the study.

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## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 INTRODUCTION**

This chapter reviews existing literatures on the subject matter. It covers the definitions of key terms, history of insurance in Ghana, theories relating to the study, a review of determinants of the performance of insurance companies and empirical analysis.

#### **2.1 MEANING AND DEFINITION OF INSURANCE**

The term insurance has several definitions. Several insurance regulators, writers and authors attempted to explain the term insurance from other context. Insurance is seen as financial arrangement that redistributes the cost of unexpected losses (Dorfman, 2008). This explains that, insurance is concerned with uncertainty of loss to an insurance pool and the allocation of cost of losses among the participants in the pool. Insurance loss is defined by Pal, Bolda and Garg (2007) as unintentional decline in or disappearance of value arising from a contingency. The cost of losses in insurance operations is the redistribution of premium payment from insured in the system. In exchange for the premium payment, the insurer promises to pay the insured's claims in the event of a covered loss (Dorfman, 2008).

#### **2.2 HISTORY OF INSURANCE IN GHANA**

The British merchants in the late 19<sup>th</sup> century introduced insurance in Ghana according to their shipping regulations and laws. The British ships were the only ships obliged to carry goods in the late century. The British ships were insured in order to safe guard the crew on board and the ship in case of any eventuality. There were Agents of insurance from foreign companies, who were responsibly for insurance transactions in Ghana. These Agents were issuing insurance

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covers on behalf of United Kingdom insurance companies complying with the Act of British Parliament. The agents who were responsible for insurance, covered Sekondi, Takoradi, Kumasi, Accra and this was because these places were where the majority lived. It was areas populated with both Ghanaians and foreigners. Ghana did not have any insurance legislation or Act as at that time. The British took the responsibility because they colonized Ghana. All the rates for premiums and regulations that were concerned with insurance were made from the United Kingdom.

Insurance companies were managed by foreign nationals while a few Ghanaian's assisted them in their daily work. The Gold Coast insurance company came into existence after Ghana's independence around 1955. In 1957, the General Insurance Company was established, after which Cooperative Insurance Society in February, 1962. SIC grew up at that time and competed with the foreign insurance companies. Insurance companies spread to the northern and other parts of Ghana. Insurance companies had branches in Sunyani, Tamale, Ho, Koforidua and other parts of Ghana due to competition in the insurance market between the foreign insurance companies and insurance companies owned by Ghanaians. All laws made was to protect Ghanaian insurance companies. The insurance Brokers also took significant steps in the insurance industry by making sure that insurance reaches every part of the country.

The commission for insurance was formed to regulate the activities of insurance companies in Ghana. Later, the Banks also used its branches in Ghana to sell insurance products. Felin Insurance Brokers Limited, Metrix Brokerage Limited and NDL Insurance Consult Limited were the three (3) new insurance broking companies which were licensed in 2013 year. Vanguard Assurance Company Limited (Agricultural Development Bank Limited) and Startlife

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Assurance Company Limited (Ghana Commercial Bank Limited) were the two (2) bancassurance partnerships approved within the year 2013. The year 2013 started with active agents of 3,680 agents and 843 more were licensed making the end of year total to be 4,523. The increased in licensed Agents brought up other policies like, funeral insurance policy, family income protection plan, education policy, credit life plan, smart plan, traveling insurance policy to mention but a few. Now the Ghanaian market of insurance is made up of both foreign companies and Ghanaian owned companies and this has led to competition in the Ghanaian economy.

### **2.3 THE NATIONAL INSURANCE COMMISSION**

The regulatory body for insurance companies in Ghana is the National Insurance Commission (NIC). The commission was established under the Insurance Law in 1989 (PNDC Law 227). It operates under the insurance Act 2006 (ACT 724). The Act provides comprehensive provisions for the regulations of insurance companies in Ghana. The date of the assent was 29<sup>th</sup> December, 2006, enacted by the President and Parliament of Ghana. It is the responsibility of the National Insurance Commission to approve the insurance premium rates, set standards and codes for practitioners, educates practitioners, resolve complaints and arbitrate insurance claims when misunderstanding arises. They also license the insurance companies and provide supervision and administrative support to the insurance companies in Ghana. The National Insurance Commission co-ordinates with other external agencies like the International Association of Insurance Supervisors for any other current information trending in the field of insurance.

In the year 2013, from Mr. Lionel Molbila, the chairman of National Insurance Commission, in the introduction of the Chairman's Report, said the commission has undergone through a lot of changes in the year 2013. In July, 2013 a new national insurance commissioner was elected,

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this was after the former Commissioner resigned seven months earlier. In August, 2013 the Board Chairman also resigned and another person took over and was inaugurated in November, 2013 as the new Board Chairman. Stakeholders received the draft Insurance Bill which they presented to cabinet in the year 2012 for consultation.

## **2.4 INSURANCE COMPANIES IN GHANA**

Insurance in Ghana are grouped under three main categories. These are Non-Life, Life and Composite Insurance. The Non-Life insurance is made up of fire, household policy, consequential loss, burglary, public liability policy and to mention but a few. On the other hand, the Life insurance in Ghana constitutes accident indemnity, life savings, hospitalization insurances and others. The last group of insurance is the Composite Insurance which is made up of the combination of life and non-life insurance. There are a total of Twenty-five (25) non-life licensed insurance companies, Eighteen (18) Life Insurance Companies, Sixty (60) Brokers Insurance Companies and Two Reinsurer Companies. The study analyzed the annual reports of the following ten (10) insurance companies in the study; Allianz Life Insurance Company Ghana Ltd, Donewell Life Company Ltd, Exceed Life Assurance Company Ltd, Enterprise Life Assurance Company Ltd, Metropolitan Life Insurance Ghana Ltd, SIC Life Company Ltd, Phoenix Life Assurance Company Ltd, Old Mutual Life Assurance Company Ltd, Hollard Life Assurance Company Ltd and Star Life Assurance Company Ltd.

The National Insurance Commission is the regulatory authority responsible for the regulating of the operations of the activities of insurance companies in Ghana. The insurance companies are regulated under the Act 724, 2006 by the National Insurance Commission of Ghana. A report from the National Insurance Commission in the year 2013 showed that, there was an

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increase in total premiums for the Life and for the Non-Life Insurance Companies”. The Gross premium for the year 2013 summed up to GHSC 1,052,000,000.00 representing an increase in growth of 23.6% over the previous year. There has always been an upward growth in premiums since the year 2009. The Life premiums went up from GHSC 356,000,000.00 in the year 2012 to GHSC 469,000,000.00 in the year 2013, which showed an increase of 31% whilst the Non-Life premiums recorded an increase in growth of 18% from GHSC 494,000,000.00 in the year 2012 to GHSC 582,000,000.00 in the year 2013.

The National Insurance Commission (NIC) realized in the performance of their routine duties that the current Insurance Act, 2006 (Act 724) has some loopholes and were not in conformity with the principles of the International Association of Insurance Supervisors Standards. This has brought about a lot of problems and other challenges to the National Insurance Regulators in coordinating the activities of the insurance sector in Ghana efficiently and effectively. The National Insurance Commission employed the help of expert in the form of consultancy services to enable them review the Insurance Act in order for the Act to be in conformity with the International Association of Insurance Supervisors standards and also help them to regulate the insurance industry in Ghana.

The consultants were made up of Stakeholders and other bodies. The draft Insurance Bill and Regulations was the outcome of the work of the consultants. The Cabinet received the Draft Insurance Bill through the help of the Ministry of Finance for approval. The National Insurance Commission was instructed by the Cabinet to make sure they review all their documents and also take opinions and decisions from all their Stakeholders. A committee was established by the National Insurance Commission as part of the recommendations by the Cabinet. They

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reviewed all the drafts documents which were the Regulations, Insurance Bill and Code of Insurance. The finished draft from the committee was given to Management of the National Insurance Commission for their review. The drafts documents were then forwarded back to the Cabinet for approval for final approval.

## **2.5 THEORETICAL REVIEW OF LITERATURE**

There are several studies conducted in the area of determinants of an organization's performance. Some of the areas covered by studies are the resource based view theory, the open system theory, stakeholder's theory and theory of causality.

### **2.5.1 THE RESOURCE BASED VIEW THEORY**

The resource based view gives an understanding that significant resources will yield a superior performance and also give an important competitive advantage. Such an advantage would last long if competitors are not able to produce such resources. In recent times, due to the nature of market we operate in, resources that exist cannot be adequate to take care of future market requirements. There is the need for organization to develop or improve resources to meet future market requirements. Barney (1991) summarized the requirement for evaluating resources as valuable, rare, inimitable and non-substitutable (VRIN). The resource based view of an organization was also explained by Mahoney and Pandian (1992) as the ability to deliver sustainable competitive advantage when resources are managed such that their outcomes cannot be imitated by competitors, which ultimately creates a competitive barrier. Wernerfelt and Rumelt (1984) explained that the resource based view as a basis for the competitive advantage of a firm lies primarily in the application of a bundle of valuable tangible or intangible resources at the firm's disposal.

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### **2.5.2 STAKEHOLDER'S THEORY**

The stakeholder theory is a conceptual framework of business ethics and organizational management which addresses moral and ethical values in the management of a business. The stakeholder theory was first proposed in the book Strategic Management. Research conducted has shown that stakeholder's theory which asserts that the dominant Stakeholder group, shareholders, financially benefit when management meets the demands of multiple stakeholders (Bernadette, 2001, Krishnamurty, Brown, Janny and Karen, 2001). Stakeholder's theory gives other ways of comparing the difference between the corporate financial performance and corporate social performance. There is a positive link between change in corporate social performance with growth in sales for current and subsequent years (Laplume, Karan and Reginald, 2008). That is the benefits that can be achieved from improving corporate social performance are in short term and long term. According to Mansell (2013), by applying the political concept of a "social contract to the corporation, stakeholders theory undermines the principles on which a market economy is based.

### **2.6 EMPIRICAL LITERATURE REVIEW**

Prakash and Rajaram (2017) examined the relationship between financial performance and their determinants in the case of Indian life insurance sector using panel data of 10 companies for 10 years from 2005 to 2014. The results showed that liquidity, size, solvency and risk retention ratio are not significantly related to financial performance and claims ratio, growth in gross premiums, capital and tangibility are negatively related to financial performance.

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Mumo (2017) examined the factors influencing the performance of insurance companies in Kenya and concluded that firm size is an important determinant of an insurance company's performance. The study indicated that large firms enjoy economies of scale and their average cost of production is low ensuring efficient operational activities. Large firms also face less difficulty in getting access to credit facilities from financial institutions, thus achieving greater strategic diversification.

Mwangi and Murigu (2015) examined factors that affect the profitability of general insurers in Kenya. They employed multiple linear regression, with return on assets as the dependent variable, and considered all the general insurance companies in Kenya for the period 2009-2012. The results from their study showed that profitability was positively related to leverage, equity capital, management competence index and negatively related to size and ownership structure. The study however did not find any relationship between performance and retention ratio, liquidity, underwriting risk and age.

Burca and Batrinca (2014) analyzed the determinants of the financial performance in the Romanian insurance market during the period 2008–2012. The results from their study revealed that the determinants of the financial performance in the Romanian insurance market are the financial leverage in insurance, company size, growth of gross written premiums, underwriting risk, risk retention ratio and solvency margin.

Cekrezi (2015) explored the factors that affect financial performance of Albanian Insurance Companies. The results showed that leverage (total debt to total assets) and risk (standard deviation of sales to average value of sales) have negative impact and tangibility (fixed assets to total assets) has positive impact on the financial performance (ROA) of these companies.

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Financial performance is a measure of an organization's earnings, profits, appreciations in value as evidenced by the rise in the entity's share price (Asimakopoulos, Samitas and Papadogonas, 2009). In insurance, performance is normally expressed in net premiums earned, profitability from underwriting activities, annual turnover, returns on investment and return on equity. These measures can be classified as profit performance measures and investment performance measures. Profit performance includes the profits measured in monetary terms. Simply, it is the difference between the revenues and expenses.

These two factors, revenue and expenditure are in turn influenced by firm-specific characteristics, industry features and macroeconomic variables. Investment performance can take two different forms. One the return on assets employed in the business other than cash, and two, the return on the investment operations of the surplus of cash at various levels earned on operations (Chen and Wong, 2004; and Asimakopoulos, Samitas, and Papadogonas, 2009).

At the micro level, profit is the essential pre-requisite for the survival, growth and competitiveness of insurance firms and the cheapest source of funds. Without profits insurers cannot attract outside capital to meet their set objectives in this ever changing and competitive globalized environment. Profit does not only improve upon insurers' solvency state but it also plays an essential role in persuading policyholders and shareholders to supply funds to insurance firms. Thus, one of the objectives of management of insurance companies is to attain profit as an underlying requirement for conducting any insurance business (Chen and Wong, 2004).

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General insurer's profitability is influenced by both internal and external factors. Whereas internal factors focus on an insurer's specific characteristics, the external factors concern both industry features and macroeconomic variables. The firm-specific factors include; leverage which is measured by the ratio of total debt to equity (debt/equity ratio). This ratio shows the degree to which a business is utilizing borrowed money. It reflects insurance companies' ability to manage their economic exposure to unexpected losses. This ratio represents the potential impact on capital and surplus of deficiencies in reserves due to financial claims (Adams and Buckle, 2000).

The size of the firm is another factor that determines an insurance company's financial performance. The size of the firm affects its financial performance in many ways. Large firms can exploit economies of scale and scope and thus being more efficient compared to small firms. Size can be determined by net premium which is the premium earned by an insurance company after deducting the reinsurance ceded. The premium base of insurers dictates the quantum of policy liabilities to be borne by them (Ahmed, Ahmed, and Ahmed, 2010; and Teece, 2009).

Another factor is the age of a company. Older firms are more experienced, have enjoyed the benefits of learning, are not prone to the liabilities of newness, and can therefore enjoy superior performance. Older firms may also benefit from reputation effects, which allow them to earn a higher margin on sales. On the other hand, older firms are prone to inertia, and the bureaucratic ossification that goes along with age; they might have developed routines, which are out of touch with changes in market conditions, in which case an inverse relationship between age and profitability or growth could be observed (Shiu, 2004).

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A study conducted by Omondi and Muturi (2013) on the financial performance of 29 listed companies operating in Nairobi in 2006 to 2012 showed that there is significant negative effect on financial performance concerning leverage (ratio of debt-equity). Their findings suggested that liquidity that is current assets over current liabilities has a significant improvement on firms when it comes to financial performance. They concluded that the size of a company has a positive effect on financial performance based on their research.

The factors that affect performance financially of the Jordanian Insurance Companies were looked into by Almajali et al, (2012). Their research covered 25 listed companies at Amman Stock Exchange for the period 2002 to 2007. The outcome provided that size, leverage, liquidity and management competence index had a positive effect on the financial performance of the insurance companies.

Retention ratio is the percentage of the underwritten business which is not transferred to reinsurers. A higher retention ratio with lower claims ratio is likely to impact on the performance of insurers' positively. Theoretically, a more efficient insurance company in underwriting decisions accompanied by higher retention should have higher profitability (Charumathi, 2012).

Mwangi (2013) sought to establish the factors; and the extent to which they influence financial performance of insurance companies. He used profitability as a financial performance indicator. He noted that interest rate fluctuations, liquidity, and competition are the key factors that influence financial performance of Kenyan insurance companies, but he did not state their relationship. Wabita (2013) examined the determinants of financial performance of insurance

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companies in Kenya and concluded that; growth of the insurance industry positively affects financial performance, leverage of the insurance industry negatively affects financial performance, and the amount of tangible assets held by the industry positively affects financial performance.

Mutugi (2012) carried out a study to establish the factors that influence financial performance of life assurance companies in Kenya and found that capital structure, innovation and ownership structure are determinants of financial performance. According to a study conducted by Ahmed, Ahmed and Usman (2011) on the determinants of performance, it indicated that size, risk and leverage are important determinants of performance of life insurance companies of Pakistan. According to their study Return on Asset (ROA) has statistically insignificant relationship with growth, profitability, age and liquidity.

Another influence on the profitability of insurers is the retention ratio. The retention ratio is the percentage of the underwritten business which is not transferred to reinsurers. A higher retention ratio with lower claims ratio is likely to impact on the performance of insurers' positively. Through a dynamic panel model, Pervan, Curak and Marijanovic (2012) investigated the underlying factors of Bosnia and Herzegovina insurance industry's profitability. Their findings indicated a strong negative influence of claims ratio on profitability. They further showed that age and market shares have significant positive impacts on insurers' financial performance.

Kasturi (2006) argued that the performance of insurance company in financial terms is normally expressed in net premium earned, profitability from underwriting activities, annual turnover,

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return on investment and return on equity. These measures can be classified as profit performance measures and investment performance measures.

Chen and Wong (2004) revealed that size, investment and liquidity are significant determinants of the profitability of insurers. However, Ahmed et al., (2011) in a similar study of the Pakistani life insurance industry, claimed that liquidity is not a significant determinant of insurers' profitability. They posited that, whereas size and risk (loss ratio) are significant and positively related to the profitability of insurance firms, leverage is negative and hence decreases the profitability of insurers significantly. Still in Pakistan, Malik (2011) delved into the determinants of the financial performance of 35 listed life and non-life companies covering the period of 2005 to 2009. Although his study covers both sectors of the insurance business, much of his findings seem to confirm that of Ahmed et al (2011). Specifically, Malik found that whereas size and capital have strong positive association with insurers' profitability, loss ratio and leverage have strong inverse relationship with profitability.

Another research was done among Bermuda insurers by Adams and Buckle (2003) and they argued that highly geared and low liquid Bermuda insurers perform better and that their underwriting risk is directly related to a resilient financial performance. This seems to suggest that actuarial risk and operational risks were properly managed by Bermuda insurers. Adams and Buckle (2003) further posited that insurers' size and scope of business do not have significant influence on financial performance. The findings of Charumathi (2012) about the Indian insurance sector however contradict that of Adams and Buckle (2003). Charumathi (2012) noted that the profitability of life insurers is positive and is influenced significantly by the size of an insurer as measured by net premiums. He further posited that leverage, premium

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growth and equity capital have strong inverse relationship with insurers' profitability. The findings of Charumathi (2012) confirms that of Chen et al., (2004) that, insurers' profitability decreases with an increase in equity ratio.

Adams and Buckle (2003) argued that highly geared and low liquid Bermuda insurers perform better and that their underwriting risk is directly related to a resilient financial performance. This seems to suggest that actuarial risk and operational risks are properly managed by Bermuda insurers. Adams and Buckle further posited that insurers' size and scope of business do not have significant influence on financial performance. Shiu (2004) conducted separate studies on the economic performance of UK general insurance industry and revealed that liquidity, unexpected inflation, interest rate level and underwriting profits were statistically significant determinants of the insurers' performance.

Hrechaniuk et al. (2007) examined the financial performance of insurance companies in Spain, Lithuania and Ukraine. Their results showed a strong correlation between insurers' financial performance and the growth of the written insurance premiums. Pervan and Pavic (2010) and Curak et al (2011) investigated into the impacts of firm-specific, industry-specific and macroeconomic variables on the financial performance of the Croatian non-life and composite insurance companies respectively. The results of Pervan and Pavic revealed an inverse and significant influence of ownership, expense ratio and inflation on profitability. In lending support to the findings of Pervan and Pevic (2010), Curak et al (2011) indicated that size, underwriting risk, inflation and equity returns have significant association with composite insurers' financial performance.

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In Poland, a panel study of 25 non-life insurance companies by Kozak (2011) revealed that the value of gross premiums is positive and a significant parameter of the profitability and efficiency of insurance companies. He, however, identified a negative relationship between profitability and lack of specialization or expertise in few cost-effective products.

Other possible determinants of profitability in the insurance industry are foreign ownership, competition and GDP growth rate. Foreign ownership and GDP growth rate have been identified in other countries to contribute positively to insurers' profitability (Kozak, 2011 and Ahmed et al., 2011). The evidence on the relationship between competition and insurers' profitability is scanty and mixed. Chen and Wong (2004) revealed that size, investment and liquidity are significant determinants of the profitability of insurers. However, Ahmed et al., (2011) in a similar study of the Pakistani life insurance industry, claimed that liquidity is not a significant determinant of insurers' profitability. They posited that, whereas size and risk (loss ratio) are significant and positively related to the profitability of insurance firms, leverage is negative and hence decreases the profitability of insurers significantly.

Still in Pakistan, Malik (2011) delved into the determinants of the financial performance of 35 listed life and non-life companies covering the period of 2005 to 2009. Although his study covered both sectors of the insurance business, much of his findings seem to confirm that of Ahmed et al. (2011). Specifically, Malik found that whereas size and capital have strong positive association with insurers' profitability, loss ratio and leverage have strong inverse relationship with profitability.

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**Retention ratio**

**Leverage**

**Size**

**Gross Written Premium**

**Liquidity (LIQ)**

**Inflation (INF)**

**Leverage**

**Size**

**Gross Written Premium**

**Liquidity (LIQ)**

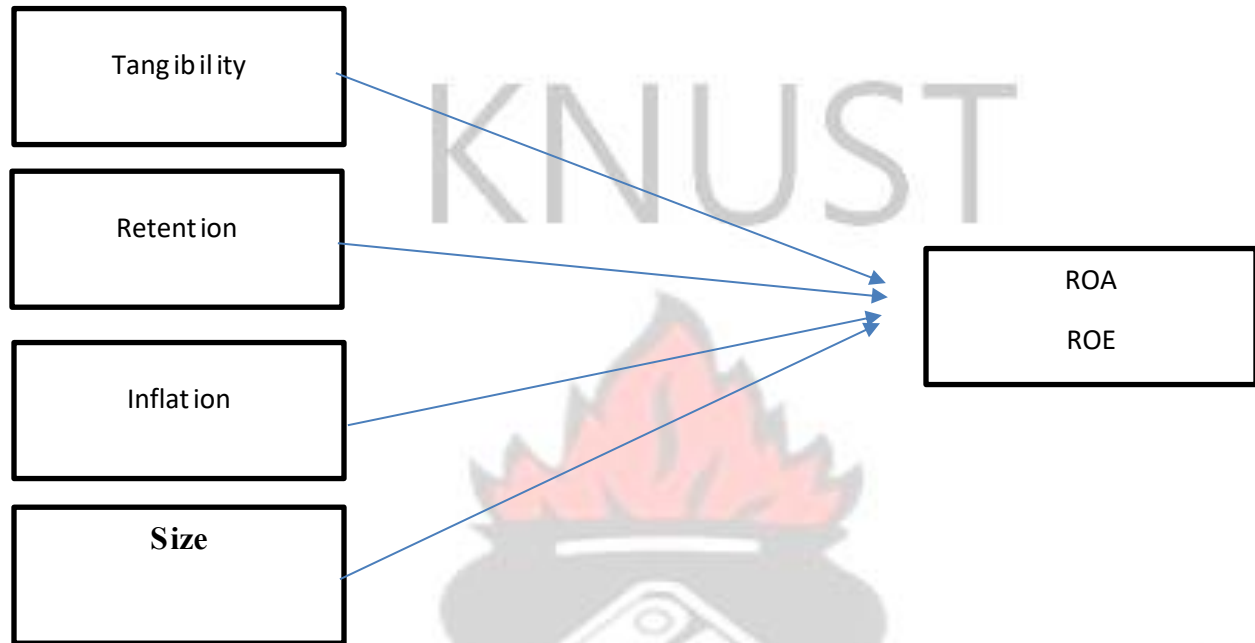
**Inflation (INF)**

KNUST



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## 2.7 CONCEPTUAL FRAMEWORK





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## **CHAPTER THREE**

### **RESEARCH METHODOLOGY AND ORGANIZATIONAL PROFILE**

#### **3.0 INTRODUCTION**

This chapter discusses the methodology employed in the study. It covers amongst others the sources of data used in the study, the study population and sample size, data collection and data analysis, definition of variables used in the study and an overview of the insurance industry in Ghana.

#### **3.1 RESEARCH DESIGN**

The study employs the quantitative approach of research in examining the determinants of the financial performance of some selected life and non-life insurance companies in Ghana. Ten composite insurance companies which underwrite both life and non-life insurance policies were selected for the study.

#### **3.2 SOURCES OF DATA**

The study employed secondary data which are basically the annual reports of the selected insurance companies. These annual reports were obtained from the official websites of the selected insurance companies. The data covers a five year period spanning from 2015 to 2019.

#### **3.3 STUDY POPULATION AND SAMPLE SIZE**

The study has been conducted on the insurance industry in Ghana. The population for the study is all life and non-life insurance companies in Ghana. Insurance companies were chosen primarily due to the availability and reliability of data because they are required statutorily to provide annual reports at the end of the year. It is out of this population that a sample size of ten

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composite insurance companies which underwrite both life and non-life insurance policies were chosen for the study. The convenience sampling technique is used in selecting the sample.

### 3.4 DATA COLLECTION

The study employed secondary data sources to examine the determinants of profitability in the insurance industry in Ghana. Data for the study were extracted from the annual reports of the insurance companies spanning a period of five years from 2015 to 2019. The annual reports of the selected insurance companies were obtained from their official websites.

### 3.5 DATA ANALYSIS

The study examines the determinants of financial performance of the insurance industry in Ghana. Purposively, the researcher employs Random and Fixed Effect regression analysis (see Anderson and Reeb 2003; De Andres, Azofra, and Lopez, 2005) to examine the determinants of the financial performance of insurance companies in Ghana. Return on assets (ROA), the dependent variable in the model is defined as profit before interest and tax expressed as a percentage of total assets. However, the independent variables employed to determine the financial performance of the insurance companies include tangibility, size, leverage, liquidity, retention ratio and gross written premium. Correlation was consequently employed to detect multicollinearity amongst the variables. The regression model for this study is therefore stated as follows;

$$ROA_{it} = \beta_1 + \beta_2 TAN_{it} + \beta_3 RR_{it} + \beta_4 LEV_{it} + \beta_5 SIZE_{it} + \beta_6 GWP_{it} + \beta_7 LIQ_{it} + \beta_8 IFL_{it} + \varepsilon_{it}$$

Where;

TAN = Tangibility

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ROA = Return on assets;

RR = Retention Ratio

LEV = Leverage of the insurance companies

SIZE = Size of the insurance companies

GWP = Gross Written Premium

LIQ = Liquidity

IFL = End of year inflation index

The subscript  $i$  and  $t$  represents the cross-sectional and time series dimension of the data respectively.

Table 3.1 below shows the measurement of the variable employed in the study.

**Table 3.1: Variables, Definitions and Expected Signs**

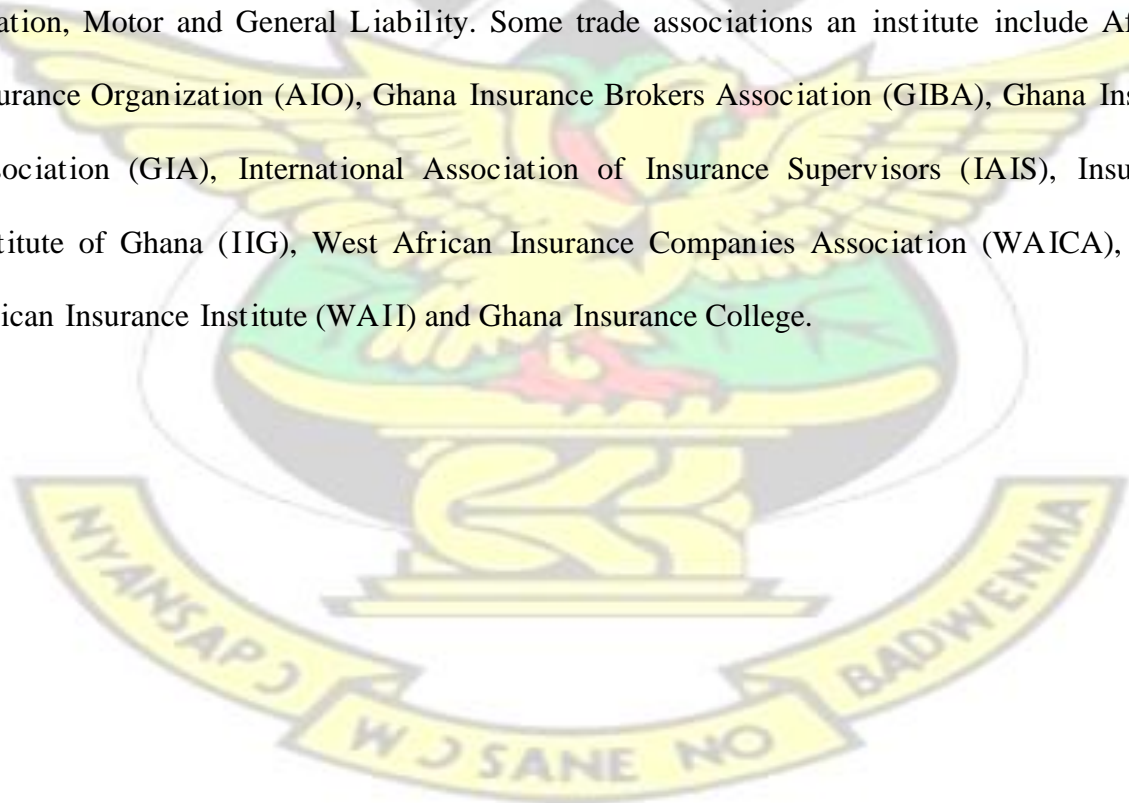
Variable	Definition	Expected Sign
Return on assets (ROA)	Profit before interest and tax expressed as a percentage of total assets	
Tangibility (TAN)	Fixed assets expressed as a percentage of total assets	+
Retention ratio (RR)	Net Premium/Gross Premium	+
Leverage (LEV)	Total Liabilities divided by Total Assets	-
Size	Natural Logarithm of Total Assets	+
Gross Written Premium (GWP)	Natural logarithm of gross premiums written by insurer	+
Liquidity (LIQ)	Current assets expressed as a ratio of current liabilities	+
Inflation (INF)	End of period annual change in Consumer Price Index	-
E	Residual term	

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### 3.6 OVERVIEW OF THE INSURANCE INDUSTRY IN GHANA

The Ghanaian insurance industry is a vibrant and growing industry with a huge potential to contribute to economic growth if developed and much attention paid to it. The industry is regulated by the National Insurance Commission (NIC). The insurance industry is governed by the Insurance Act 2006, ACT 724. This Act complies significantly with the International Association of Insurance Supervisors (IAIS) Core Principles and gives better regulatory powers to the National Insurance Commission. The Act among other things prohibits composite insurance companies. All composite insurance companies therefore had to separate their life and non-life operations into different companies. The main classes of life products are Universal Life, Funeral, Whole Life, Endowment Plan, Term Policy and Group life. The main classes of Non-life businesses are Fire burglary and property damage, Accident, Marine and aviation, Motor and General Liability. Some trade associations and institute include African Insurance Organization (AIO), Ghana Insurance Brokers Association (GIBA), Ghana Insurers Association (GIA), International Association of Insurance Supervisors (IAIS), Insurance Institute of Ghana (IIG), West African Insurance Companies Association (WAICA), West African Insurance Institute (WAI) and Ghana Insurance College.





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## CHAPTER FOUR

### DATA PRESENTATION, ANALYSIS AND DISCUSSION

#### 4.0 INTRODUCTION

This chapter covers the presentation of data, analysis of data and discussions of results. It covers the descriptive statistics, correlation analysis and regression analysis to examine the determinants of profitability of the insurance companies.

**Table 4.1: Results of Descriptive statistics**

Variable	Mean	Std. Dev.	Min	Max
<b><u>LIFE</u></b>				
ROA	0.4655	0.1509	0.0000	0.76759
SIZE	13.401	1.1098	9.2559	15.551
Tangibility	0.6217	0.5269	3.9512	12.979
RR	0.0698	0.1129	0.5321	0.4204
LEVERAGE	0.3293	0.1275	0.0000	0.9911
GWP	10.2494	0.4122	9.1609	13.6468
Liquidity	3.6372	0.1477	2.1867	4.3568
Inflation	0.0567	0.1527	3.4567	9.3562
<b><u>NON-LIFE</u></b>				
ROA	0.3255	0.1301	0.0000	0.5675
SIZE	15.201	1.2412	8.2559	17.551
Tangibility	0.6832	0.4223	4.9512	14.979
RR	0.1628	0.1129	0.4321	0.2204
LEVERAGE	0.2846	0.1057	0.0000	0.8311
GWP	13.2494	0.3122	10.2609	16.6468
Liquidity	4.5372	0.2377	2.1867	4.3568
Inflation	0.0767	0.1427	5.4567	10.3562

**Keynotes: ROA = Return on assets; ROCE = return on capital employed; SIZE = size of insurance company; RR = Retention ration; GWP = Gross written premium**

Table 4.1 reports the results of the descriptive statistics of the data. These include the mean, standard deviation, minimum and maximum values for both life and non-life insurance companies. On Return on assets (ROA), the table records a mean of 0.4655 and a standard

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deviation of 0.1509 for life insurance companies, suggesting that life insurance companies are able to generate approximately about 46.55% of return on their assets. The table reports a mean of 0.6217 and a standard deviation of 0.5269 for Tangibility of the life insurance companies, suggesting that the ratio of fixed assets to total assets of the life insurance companies is approximately 62.17%. Retention ratio (RR) which expresses net premium as a percentage of gross premium recorded a mean of 0.0698 and standard deviation of 0.1129 for life insurance companies implying that on average life insurance firms net premium expressed as a percentage of gross premium is 6.98%.

On the life insurance companies' total liabilities to total assets ratio (that is, leverage), table 4.1 reports a mean and standard deviation of 0.3293 and 0.1275 respectively, suggesting that the life insurance companies are lowly geared. In other words, a small proportion of the insurance companies' assets (approximately 32.93%) are financed through debt capital. Furthermore, the results on the life insurance companies' size (BSIZE) in table 4.1 recorded an approximated mean and standard deviation of 13.401 and 1.1098 suggesting that life insurance companies on the average have total assets size of approximately GHS13m. Gross written premium (GWP) which is proxied by natural logarithm of gross premiums of the insurance companies recorded a mean of 10.2494 and standard deviation of 0.4122 for life insurance companies. This suggests that the gross written premium of life insurance companies on average is GHS10m.

Liquidity measures the number of times the current assets of the insurance companies can cover the payments of their current liabilities. Thus, liquidity expresses current assets as a ratio of current liabilities. As presented in the table 4.1, liquidity recorded a mean of 3.6372 and standard deviation of 0.14765 for life insurance companies suggesting that on average the current assets of life insurance companies can divide their current liabilities by 3.6372 times.

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Thus, life insurance companies on the average can pay their current liabilities out of their current assets by approximately 4 times. Inflation recorded a mean of 0.0567 and standard deviation of 0.1527 implying that on average end of year inflation is 5.67% in the insurance industry. Increases in interest rate arising from high-inflationary pressures means that returns on investments will increase and as a result inflation has a positive effect on insurer's profitability due to high investment yields.

Regarding non-life insurance companies, Return on assets (ROA), records a mean of 0.3255 and a standard deviation of 0.1301, suggesting that non-life insurance companies are able to generate approximately about 32.55% of return on their assets. The table reports a mean of 0.6832 and a standard deviation of 0.4223 for Tangibility for the non-life insurance companies, suggesting that the ratio of fixed assets to total assets of the non-life insurance companies is approximately 68.32%. Retention ratio (RR) which expresses net premium as a percentage of gross premium recorded a mean of 0.1628 and standard deviation of 0.1129 for non-life insurance companies implying that on average non-life insurance firms net premium expressed as a percentage of gross premium is 16.28%.

On the non-life insurance companies' total liabilities to total assets ratio (that is, leverage), table 4.1 reports a mean and standard deviation of 0.2846 and 0.1057 respectively, suggesting that non-life insurance companies are lowly geared. In other words, a small proportion of the insurance companies' assets (approximately 28.46%) are financed through debt capital.

Furthermore, the results on the non-life insurance companies' size (BSIZE) in table 4.1 recorded an approximated mean and standard deviation of 15.201 and 1.2412 suggesting that non-life insurance companies on the average have total assets size of approximately GHS15m.

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Gross written premium (GWP) which is proxied by natural logarithm of gross premiums of the insurance companies recorded a mean of 13.2494 and standard deviation of 0.3122 for non-life insurance companies. This suggests that the gross written premium of non-life insurance companies on average is GHS13m.

Liquidity measures the number of times the current assets of the insurance companies can cover the payments of their current liabilities. Thus, liquidity expresses current assets as a ratio of current liabilities. As presented in the table 4.1, liquidity recorded a mean of 4.5372 and standard deviation of 0.2377 for non-life insurance companies suggesting that on average the current assets of non-life insurance companies can divide their current liabilities by 4.5372 times. Thus, non-life insurance companies on the average can pay their current liabilities out of their current assets by approximately 5 times.

Inflation recorded a mean of 0.0767 and standard deviation of 0.1427 implying that on average end of year inflation is 7.67% in the non-life insurance industry. Increases in interest rate arising from high-inflationary pressures means that returns on investments will increase and as a result inflation has a positive effect on insurer's profitability due to high investment yields.

**Table 4.2: Results of Correlation Matrix**

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	1	2	3	4	5	6	7	8
<b><u>LIFE</u></b>								
<b>1.ROA</b>	1.000							
<b>2.Size</b>	0.057	1.000						
<b>3.Tangibility</b>	0.147	0.662	1.000					
<b>4. RR</b>	0.366	0.031	0.076	1.000				
<b>5.Leverage</b>	-0.004	-0.252	-0.165	-0.137	1.000			
<b>6.GWP</b>	0.009	0.015	0.019	0.001	0.032	1.000		
<b>7. Liquidity</b>	0.247	0.264	0.165	0.144	-0.087	0.353	1.000	
<b>8. Inflation</b>	0.061	0.324	0.023	0.213	0.089	0.068	0.436	1.000
<b><u>NON-LIFE</u></b>								
<b>1.ROA</b>	1.000							
<b>2.Size</b>	0.435	1.000						
<b>3.Tangibility</b>	0.246	0.324	1.000					
<b>4. RR</b>	0.452	0.231	0.176	1.000				
<b>5.Leverage</b>	-0.043	-0.552	-0.365	-0.237	1.000			
<b>6.GWP</b>	0.349	0.215	0.219	0.051	0.132	1.000		
<b>7. Liquidity</b>	0.447	0.364	0.135	0.164	-0.187	0.253	1.000	
<b>8. Inflation</b>	0.071	0.424	0.053	0.313	0.189	0.168	0.436	1.000

**Keynotes: ROA = Return on assets; SIZE = size of insurance company; RR = Retention ratio; GWP = Gross written premium**

Table 4.2 above reports the correlation matrix of the variables employed in the examination of profitability of the insurance companies. The correlation results suggest no multicollinearity among the variables as all the correlation results fall within the tolerance level of 0.8. The results show both negative and positive correlation coefficients. The table records positive correlation between tangibility and profitability (0.147) of life insurance companies implying that an increase in the tangibility of the life insurance companies will result in an increase in their profitability. This is because an increase in tangibility implies that the life insurance companies have more assets which can be used to operate for more than one year thereby reducing any immediate need for investment in fixed assets and increasing the cash surplus of the insurance companies which can be invested to earn extra income thereby increasing their

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profitability in total. The table also show a positive relationship between tangibility of the life insurance companies and their sizes (0.662).

Table 4.2 reports a positive relationship between size and profitability of the life insurance companies (0.057). This suggests that an increase in the size of the life insurance companies will result in an increase in their profitability. This is because an increase in the size of the insurance companies could be in the form of increase in their cash surplus balance which can be invested in order to earn investment income thereby increasing the overall profitability of the life insurance companies. This is in line with the findings of Ahmed, Ahmed, and Ahmed, (2010) and Teece (2009) who noted in their studies that large firms can exploit economies of scale and scope and thus being more efficient compared to small firms. Similarly, Athanasoglou, Brissimis and Delis (2005) asserted that increase in insurance companies' size increases their financial performance. Almajali et al. (2012) also argued that the size of the firm can affect its financial performance. However, for firms that become exceptionally large, the effect of size could be negative due to bureaucratic and other reasons (Yuqi, 2007).

The table further reports positive correlation of 0.366 between retention ratio (RR) and profitability of the life insurance companies. Thus, an increase in retention ratio will results in an increase in the profitability of the life insurance companies. This is in line with the findings of Ahmed, Ahmed, and Ahmed, (2010) who also concluded in their study that high retention ratio will result in high profitability because the net premium retain can be re-invested to earn extra income. Table 4.2 also reports a positive correlation of 0.031 between retention ratio (RR) and insurance companies size (SIZE). This suggests that an increase in retention ratio of the life insurance companies will lead to an increase in their size. The table also reports a positive correlation of 0.076 between retention ratio and tangibility of the life insurance companies

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implying that an increase in the retention ratio of the life insurance companies will translate into increase in their tangibility ratio.

From Table 4.2, leverage which measures the gearing level of the insurance companies show negative correlation of -0.004 and -0.2521 with profitability and size of the life insurance companies respectively suggesting that an increase in leverage will result in a decrease in profitability and the size of the insurance companies. This result confirms the findings of Wabita (2013) who also concluded from his study that leverage of the insurance industry negatively affects financial performance.

Gross written premium (GWP) is the natural logarithms of the gross premium income of the insurance companies. Table 4.2 reports a positive correlation between gross written premium (GWP) and profitability of the insurance companies (0.009). This suggests that an increase in gross written premium (GWP) will result in an increase in the profitability of the life insurance companies. This confirmed the findings of Kozak (2011) who revealed that the value of gross premiums is positive and a significant parameter of the profitability and efficiency of insurance companies' financial performance. The table further reports a positive correlation of 0.015 and 0.019 between gross written premium (GWP) and size and tangibility of the insurance companies respectively.

Liquidity refers to the degree to which debt obligations coming due in the next twelve months can be paid from cash or assets that will be turned into cash. Insurance liquidity is the ability of the insurer to fulfil their immediate commitments to policyholders without having to increase profits on underwriting and investment activities and/or liquidate financial assets. The cash and bank balances are to be kept sufficient to meet the immediate liabilities towards claims due

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for payment but not yet settled (Chaharbaghi and Lynch, 1999). As shown in Table 4.2, there is positive correlation between liquidity of the life insurance companies and their profitability (0.247) implying that an increase in the liquidity level of the life insurance companies will translate into an increase in their profitability. Liquidity further shows positive correlation with size of the insurance companies, tangibility, and their retention ratio. This means that an increase in the liquidity of the life insurance companies will result in an increase in their size, retention ratio and their tangibility ratio. There is however a negative correlation between Liquidity ratio and leverage. Thus, an increase in the liquidity ratio of the life insurance companies will result in a decrease in their leverage level and vice versa. The results are in line with the findings of Almajali et al. (2012) who found that firm liquidity had significant positive effect on financial performance of insurance companies. The result suggested that the insurance companies should increase the current assets and decrease current liabilities because of the positive relationship between the liquidity and financial performance.

Inflation shows positive correlation with the return on assets of the life insurance companies (0.061). This is because increases in interest rate arising from high-inflationary pressures means that returns on investments will increase and as a result inflation has a positive effect on insurer's profitability due to high investment yields. The results contradict the findings of Pervan and Pavic (2010) who found a significant inverse relationship between inflation and profitability of insurance companies.

The table records positive correlation between tangibility and profitability (0.246) of non-life insurance companies implying that an increase in the tangibility of the non-life insurance companies will result in an increase in their profitability. This is because an increase in tangibility implies that the non-life insurance companies have more assets which can be used to

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operate for more than one year thereby reducing any immediate need for investment in fixed assets and increasing the cash surplus of the insurance companies which can be invested to earn extra income thereby increasing their profitability in total. The table also show a positive relationship between tangibility of the non-life insurance companies and their sizes (0.324).

Table 4.2 reports a positive relationship between size and profitability of the non-life insurance companies (0.435). This suggests that an increase in the size of the non-life insurance companies will result in an increase in their profitability. This is because an increase in the size of the non-life insurance companies could be in the form of increase in their cash surplus balance which can be invested in order to earn investment income thereby increasing the overall profitability of the non-life insurance companies. This is in line with the findings of Ahmed, Ahmed, and Ahmed, (2010) and Teece (2009) who noted in their studies that large firms can exploit economies of scale and scope and thus being more efficient compared to small firms. Similarly, Athanasoglou, Brissimis and Delis (2005) asserted that increase in insurance companies' size increases their financial performance. Almajali et al. (2012) also argued that the size of the firm can affect its financial performance. However, for firms that become exceptionally large, the effect of size could be negative due to bureaucratic and other reasons (Yuqi, 2007).

The table further reports positive correlation of 0.452 between retention ratio (RR) and profitability of non-life insurance companies. Thus, an increase in retention ratio will results in an increase in the profitability of the non-life insurance companies. This is in line with the findings of Ahmed, Ahmed, and Ahmed, (2010) who also concluded in their study that high retention ratio will result in high profitability because the net premium retain can be re-invested to earn extra income. Table 4.2 also reports a positive correlation of 0.231 between

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retention ratio (RR) and non-life insurance companies size (SIZE). This suggests that an increase in retention ratio of the non-life insurance companies will lead to an increase in their size. The table also reports a positive correlation of 0.176 between retention ratio and tangibility of the non-life insurance companies implying that an increase in the retention ratio of the life insurance companies will translate into increase in their tangibility ratio.

From Table 4.2, leverage which measures the gearing level of the insurance companies show negative correlation of -0.043 and -0.552 with profitability and size of the non-life insurance companies respectively suggesting that an increase in leverage will result in a decrease in profitability and the size of the non-life insurance companies. This result confirms the findings of Wabita (2013) who also concluded from his study that leverage of the insurance industry negatively affects financial performance.

Gross written premium (GWP) is the natural logarithms of the gross premium income of the insurance companies. Table 4.2 reports a positive correlation between gross written premium (GWP) and profitability of the non-life insurance companies (0.349). This suggests that an increase in gross written premium (GWP) will result in an increase in the profitability of the non-life insurance companies. This confirmed the findings of Kozak (2011) who revealed that the value of gross premiums is positive and a significant parameter of the profitability and efficiency of insurance companies' financial performance. The table further reports a positive correlation of 0.215 and 0.219 between gross written premium (GWP) and size and tangibility of the non-life insurance companies respectively.

Liquidity refers to the degree to which debt obligations coming due in the next twelve months can be paid from cash or assets that will be turned into cash. Insurance liquidity is the ability of

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the insurer to fulfil their immediate commitments to policyholders without having to increase profits on underwriting and investment activities and/or liquidate financial assets. The cash and bank balances are to be kept sufficient to meet the immediate liabilities towards claims due for payment but not yet settled (Chaharbaghi and Lynch, 1999). As shown in Table 4.2, there is positive correlation between liquidity of the non-life insurance companies and their profitability (0.447) implying that an increase in the liquidity level of the non-life insurance companies will translate into an increase in their profitability. Liquidity further shows positive correlation with size of the non-life insurance companies, tangibility, and their retention ratio. This means that an increase in the liquidity of non-life insurance companies will result in an increase in their size, retention ratio and their tangibility ratio. There is however a negative correlation between Liquidity ratio and leverage. Thus, an increase in the liquidity ratio of the non-life insurance companies will result in a decrease in their leverage level and vice versa. The results are in line with the findings of Almajali et al. (2012) who found that firm liquidity had significant positive effect on financial performance of insurance companies. The result suggested that non-life insurance companies should increase the current assets and decrease current liabilities because of the positive relationship between the liquidity and financial performance.

Inflation shows positive correlation with the return on assets of the non-life insurance companies (0.071). This is because increases in interest rate arising from high-inflationary pressures means that returns on investments will increase and as a result inflation has a positive effect on insurer's profitability due to high investment yields. The results contradict the findings of Pervan and Pavic (2010) who found a significant inverse relationship between inflation and profitability of insurance companies.

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Table 4.3 and Table 4.4 report the Random-effect GLS regression results. Also, Table 4.5 and Table 4.6 report the Fixed-effect GLS regression results. The result of the Hausman Test of 4.35 with P-Value 0.201 shows that the Random-effect is more efficient than the fixed-effect since the probability value is greater than the significance level of 0.05.

**Table 4.3 Random-effects GLS regression (Dependent variable: ROA)**

ROA	Coefficient	Std. Error	Z	P>z
<b><u>LIFE</u></b>				
<b>Tangibility</b>	0.0511	0.0205	2.50	0.013**
<b>SIZE</b>	0.0378	0.0133	2.85	0.004***
<b>RR</b>	0.0047	0.0828	1.89	0.687
<b>LEVERAGE</b>	-0.3129	0.0625	-3.21	0.002**
<b>GWP</b>	0.4076	0.0312	4.24	0.000***
<b>Liquidity</b>	0.0468	0.0128	3.66	0.000***
<b>Inflation</b>	0.0453	0.0462	1.68	0.836
<b>INTERCEPT</b>	0.1838	0.1867	0.98	0.325

Note: Wald chi2 (5) = 30.67 (Prob > chi2 = 0.000) R-Squared = 0.7564

Hausman Test: 4.35; P-value 0.201

\*\*\* and \*\* shows significance at 1% level and 5% level respectively.

**Keynotes: ROA = Return on assets; SIZE = size of insurance company; RR = Retention ratio; GWP = Gross written premium**

Table 4.3 displays the random-effects regression results for the variables employed in the study. From Table 4.3, the results depict positive and significant relationship between tangibility and profitability of life insurance companies [ $\beta = 0.0511$ ,  $P < 0.013$ ] suggesting that fixed assets expressed as a ratio of total assets of life insurance companies can predict the profitability of life insurance companies employed in this study. The results imply that a 1% increase in the tangibility ratio of the insurance companies will results in a 5.11% increase in the return on assets (ROA) ratio of life insurance companies. Thus, a percentage increase in tangibility will have significant positive effect on life insurance firm's profitability (return on assets). All



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other things being equal any increase in fixed assets will affect total assets positively and this might increase the level of profitability (that is return on assets) of the insurance companies. This finding is contrary to evidence of Eric, Samuel and Victor (2013) who found negative relationship between tangibility and profitability of insurance companies.

On the influence of size on profitability of life insurance companies, table 4.3 shows a positive and significant relationship between life insurance companies size and profitability, that is return on assets of the insurance companies [ $\beta = 0.0378$ ,  $P < 0.004$ ] suggesting that 1% change in the total assets of life insurance companies would cause a corresponding increase of 3.78% in profitability (return on assets) of the life insurance companies. Thus, as the size of life insurance companies' increases, they are able to attract more clients thereby increasing their gross premium income and this will be translated into an increase in their overall profitability and consequently an increase in their return on assets (ROA). This suggests that an increase in the size of life insurance companies will result in an increase in their profitability. This is because an increase in the size of life insurance companies could be in the form of increase in their cash surplus balance which can be invested in order to earn investment income thereby increasing their overall profitability. This is in line with the findings of Ahmed, Ahmed, and Ahmed, (2010) and Teece (2009) who noted in their studies that large firms can exploit economies of scale and scope and thus being more efficient compared to small firms. Similarly, Athanasoglou, Brissimis and Delis (2005) asserted that increase in insurance companies' size increases their financial performance. Almajali et al. (2012) also argued that the size of the firm can affect its financial performance. However, for firms that become exceptionally large, the effect of size could be negative due to bureaucratic and other reasons (Yuqi, 2007).

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Table 4.3 shows positive and insignificant relationship between retention ratio (RR) and profitability of life insurance companies [ $\beta = 0.0047$ ,  $P < 0.687$ ]. Thus, an increase in retention ratio will results in an increase in the profitability of life insurance companies. This is in line with the findings of Ahmed, Ahmed, and Ahmed, (2010) who also concluded in their study that high retention ratio will result in high profitability because the net premium retain can be re-invested to earn extra income.

The results show a negative and significant relationship between life insurance companies' leverage ratio and profitability [ $\beta = -0.3129$   $P < 0.002$ ]. Thus, suggesting that 1% increase in the gearing ratio of life insurance companies would cause a decrease of 31.29% in their return on assets (ROA). This suggests that an increase in leverage will result in a decrease in profitability of the life insurance companies. This result confirms the findings of Wabita (2013) who also concluded from his study that leverage of the insurance industry negatively affects financial performance.

As shown in Table 4.3, there is a positive and statistically significant relationship between gross written premium (GWP) and profitability (return on assets, ROA) of life insurance companies [ $\beta = 0.4076$ ,  $P < 0.000$ ] suggesting that a 1% increase in gross written premium of life insurance companies will results in a 40.76% increase in their profitability and return on assets (ROA). This suggests that an increase in gross written premium (GWP) will result in an increase in the profitability of the life insurance companies. This confirmed the findings of Kozak (2011) who revealed that the value of gross premiums is positive and a significant parameter of the profitability and efficiency of insurance companies' financial performance.

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As presented in Table 4.3, there is a positive and significant relationship between liquidity and profitability (return on assets, ROA) of life insurance companies [ $\beta = 0.0468$ ,  $P < 0.000$ ] suggesting that a 1% increase in the liquidity of life insurance companies will results in a 4.68% increase in their profitability and return on assets (ROA). This result is in line with Eric, Samuel and Victor (2013) who also found positive relationship between liquidity and profitability of insurance firms. The results are also confirmed the findings of Almajali et al. (2012) who found that liquidity had significant positive effect on financial performance of insurance companies. Thus, all other things been equal, an increase in the liquidity position of the insurance companies will have direct impact on profitability in the sense that they will be able to invest surplus cash in order to earn more investment income which will help improve their bottom line and as such an increase in the return on assets (ROA) ratio.

Table 4.3 further reports positive and insignificant relationship between inflation and life insurance companies' return on assets. This is because increases in interest rate arising from high-inflationary pressures means that returns on investments will increase and as a result inflation has a positive effect on insurer's profitability due to high investment yields. The results contradict the findings of Pervan and Pavic (2010) who found a significant inverse relationship between inflation and profitability of insurance companies.

The table reports an adjusted R-squared of 0.7564 suggesting that the predictive variables employed in this study can at most predict about 75.64% of the profitability of life insurance companies (that return on assets) in this model. Furthermore, the results show Wald chi2 of 30.67 significant at 0.01 level, which reiterates that the profitability of life insurance companies can be explained by the explanatory variables employed in the study.

**Table 4.4 Random-effects GLS regression (Dependent variable: ROA)**

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ROA	Coefficient	Std. Error	Z	P>z
<b>NON-LIFE</b>				
<b>Tangibility</b>	0.0631	0.0105	3.50	0.021**
<b>SIZE</b>	0.0738	0.0313	2.90	0.005***
<b>RR</b>	0.0046	0.0924	1.86	0.421
<b>LEVERAGE</b>	-0.0840	0.0465	-4.31	0.001***
<b>GWP</b>	0.0786	0.0412	2.46	0.002***
<b>Liquidity</b>	0.0648	0.0218	4.66	0.000***
<b>Inflation</b>	0.0353	0.0326	1.78	0.836
<b>INTERCEPT</b>	0.4838	0.2867	0.80	0.432

Note: Wald chi2 (5) = 35.34 (Prob > chi2 = 0.000) R-Squared = 0.6247

Hausman Test: 4.35; P-value 0.201

\*\*\* and \*\* shows significance at 1% level and 5% level respectively.

**Keynotes: ROA = Return on assets; SIZE = size of insurance company; RR = Retention ratio; GWP = Gross written premium**

From Table 4.4, the results depict positive and significant relationship between tangibility and profitability of non-life insurance companies [ $\beta = 0.0631$ ,  $P < 0.021$ ] suggesting that fixed assets expressed as a ratio of total assets of non-life insurance companies can predict the profitability of non-life insurance companies employed in this study. The results imply that a 1% increase in the tangibility ratio of the insurance companies will results in a 6.31% increase in the return on assets (ROA) ratio of non-life insurance companies. Thus, a percentage increase in tangibility will have significant positive effect on non-life insurance firm's profitability (return on assets). All other things being equal any increase in fixed assets will affect total assets positively and this might increase the level of profitability (that is return on assets) of the non-life insurance companies. This finding is contrary to evidence of Eric, Samuel and Victor (2013) who found negative relationship between tangibility and profitability of insurance companies.



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Table 4.4 reports a positive and significant relationship between non-life insurance companies size and profitability, that is return on assets of the insurance companies [ $\beta = 0.0738$ ,  $P < 0.005$ ] suggesting that 1% change in the total assets of non-life insurance companies would cause a corresponding increase of 7.38% in profitability (return on assets) of non-life insurance companies. Thus, as the size of non-life insurance companies' increases, they are able to attract more clients thereby increasing their gross premium income and this will be translated into an increase in their overall profitability and consequently an increase in their return on assets (ROA). This suggests that an increase in the size of non-life insurance companies will result in an increase in their profitability. This is because an increase in the size of non-life insurance companies could be in the form of increase in their cash surplus balance which can be invested in order to earn investment income thereby increasing their overall profitability. This is in line with the findings of Ahmed, Ahmed, and Ahmed, (2010) and Teece (2009) who noted in their studies that large firms can exploit economies of scale and scope and thus being more efficient compared to small firms. Similarly, Athanasoglou, Brissimis and Delis (2005) asserted that increase in insurance companies' size increases their financial performance. Almajali et al. (2012) also argued that the size of the firm can affect its financial performance. However, for firms that become exceptionally large, the effect of size could be negative due to bureaucratic and other reasons (Yuqi, 2007).

The table shows positive and insignificant relationship between retention ratio (RR) and profitability of non-life insurance companies [ $\beta = 0.0046$ ,  $P < 0.421$ ]. Thus, an increase in retention ratio will results in an insignificant increase in the profitability of non-life insurance companies. This is in line with the findings of Ahmed, Ahmed, and Ahmed, (2010) who also

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concluded in their study that high retention ratio will result in high profitability because the net premium retain can be re-invested to earn extra income.

The results show a negative and significant relationship between non-life insurance companies' leverage ratio and profitability [ $\beta = -0.0840$   $P < 0.001$ ]. Thus, suggesting that 1% increase in the gearing ratio of non-life insurance companies would cause a decrease of 8.40% in their return on assets (ROA). This suggests that an increase in leverage will result in a decrease in profitability of non-life insurance companies. This result confirms the findings of Wabita (2013) who also concluded from his study that leverage of the insurance industry negatively affects financial performance.

As shown in Table 4.4, there is a positive and statistically significant relationship between gross written premium (GWP) and profitability (return on assets, ROA) of non-life insurance companies [ $\beta = 0.0786$ ,  $P < 0.002$ ] suggesting that a 1% increase in gross written premium of non-life insurance companies will results in a 7.86% increase in their profitability and return on assets (ROA). This suggests that an increase in gross written premium (GWP) will result in an increase in the profitability of non-life insurance companies. This confirmed the findings of Kozak (2011) who revealed that the value of gross premiums is positive and a significant parameter of the profitability and efficiency of insurance companies' financial performance.

As presented in Table 4.4, there is a positive and significant relationship between liquidity and profitability (return on assets, ROA) of non-life insurance companies [ $\beta = 0.0648$ ,  $P < 0.000$ ] suggesting that a 1% increase in the liquidity of non-life insurance companies will results in a 6.48% increase in their profitability and return on assets (ROA). This result is in line with Eric, Samuel and Victor (2013) who also found positive relationship between liquidity and

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profitability of insurance firms. The results are also confirmed the findings of Almajali et al. (2012) who found that liquidity had significant positive effect on financial performance of insurance companies. Thus, all other things been equal, an increase in the liquidity position of the insurance companies will have direct impact on profitability in the sense that they will be able to invest surplus cash in order to earn more investment income which will help improve their bottom line and as such an increase in the return on assets (ROA) ratio.

Table 4.4 reports positive and insignificant relationship between inflation and non-life insurance companies' return on assets. This is because increases in interest rate arising from high-inflationary pressures means that returns on investments will increase and as a result inflation has a positive effect on insurer's profitability due to high investment yields. The results contradict the findings of Pervan and Pavic (2010) who found a significant inverse relationship between inflation and profitability of insurance companies.

The table reports an adjusted R-squared of 0.6247 suggesting that the predictive variables employed in this study can at most predict about 62.47% of the profitability of non-life insurance companies (that return on assets) in this model. Furthermore, the results show Wald chi2 of 35.34 significant at 0.01 level, which reiterates that the profitability of non-life insurance companies can be explained by the explanatory variables employed in the study.

**Table 4.5 Fixed-effects (within) regression (Dependent variable: ROA)**

<b>ROA</b>	<b>Coefficient</b>	<b>Std. Error</b>	<b>t-statistics</b>	<b>P&gt;t</b>
<b><u>LIFE</u></b>				
<b>Tangibility</b>	0.0475	0.0207	2.29	0.024**
<b>SIZE</b>	0.0337	0.0132	2.54	0.013**
<b>RR</b>	0.3687	0.0807	4.57	0.000***

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<b>LEVERAGE</b>	-0.0408	0.0632	-0.65	0.520
<b>GWP</b>	0.0513	0.0308	0.36	0.719
<b>Liquidity</b>	0.0305	0.0161	1.89	0.635
<b>Inflation</b>	0.0437	0.0356	1.37	0.867
<b>INTERCEPT</b>	0.2177	0.1941	1.12	0.265

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Note: F-Statistic = 5.48 (Prob > F = 0.0002)

R-Squared =0.6885

Hausman Test: 4.35; P-value 0.201

**Keynotes: ROA = Return on assets; SIZE = size of insurance company; RR = Retention ratio; GWP = Gross written premium**

Table 4.5 displays the Fixed-effects regression results for the variables employed in the study for life insurance companies. From Table 4.5, the results depict positive and significant relationship between tangibility and profitability of life insurance companies [ $\beta = 0.0475$ ,  $P < 0.024$ ] suggesting that fixed assets expressed as a ratio of total assets of life insurance companies can predict the profitability of life insurance companies employed in this study. The results imply that a 1% increase in the tangibility ratio of the insurance companies will results in a 4.75% increase in the return on assets (ROA) ratio of life insurance companies. Thus, a percentage increase in tangibility will have significant positive effect on life insurance firm's profitability (return on assets). All other things being equal any increase in fixed assets will affect total assets positively and this might increase the level of profitability (that is return on assets) of the life insurance companies. This finding is contrary to evidence of Eric, Samuel and Victor (2013) who found negative relationship between tangibility and profitability of insurance companies.

Table 4.5 reports a positive and significant relationship between life insurance companies size and profitability [ $\beta = 0.0337$ ,  $P < 0.013$ ] suggesting that 1% change in the total assets of life insurance companies would cause a corresponding increase of 3.37% in profitability (return on assets) of life insurance companies. Thus, as the size of life insurance companies' increases,

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they are able to attract more clients thereby increasing their gross premium income and this will be translated into an increase in their overall profitability and consequently an increase in their return on assets (ROA). This suggests that an increase in the size of life insurance companies will result in an increase in their profitability. This is because an increase in the size of life insurance companies could be in the form of increase in their cash surplus balance which can be invested in order to earn investment income thereby increasing their overall profitability. This is in line with the findings of Ahmed, Ahmed, and Ahmed, (2010) and Teece (2009) who noted in their studies that large firms can exploit economies of scale and scope and thus being more efficient compared to small firms. Similarly, Athanasoglou, Brissimis and Delis (2005) asserted that increase in insurance companies' size increases their financial performance. Almajali et al. (2012) also argued that the size of the firm can affect its financial performance. However, for firms that become exceptionally large, the effect of size could be negative due to bureaucratic and other reasons (Yuqi, 2007).

Table 4.5 shows positive and significant relationship between retention ratio (RR) and profitability of life insurance companies [ $\beta = 0.3687$ ,  $P < 0.000$ ]. Thus, an increase in retention ratio will results in a significant increase in the profitability of life insurance companies. This is in line with the findings of Ahmed, Ahmed, and Ahmed, (2010) who also concluded in their study that high retention ratio will result in high profitability because the net premium retain can be re-invested to earn extra income.

The results in Table 4.5 show a negative and insignificant relationship between life insurance companies' leverage ratio and profitability [ $\beta = -0.0408$   $P < 0.520$ ]. Thus, suggesting that 1% increase in the gearing ratio of life insurance companies would cause an insignificant decrease of 4.08% in their return on assets (ROA). This suggests that an increase in leverage will result

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in a decrease in profitability of life insurance companies. This result confirms the findings of Wabita (2013) who also concluded from his study that leverage of the insurance industry negatively affects financial performance.

As shown in Table 4.5, there is a positive and statistically insignificant relationship between gross written premium (GWP) and profitability (return on assets, ROA) of life insurance companies [ $\beta = 0.0513$ ,  $P < 0.719$ ] suggesting that a 1% increase in gross written premium of life insurance companies will result in a 5.13% increase in their profitability and return on assets (ROA). This suggests that an increase in gross written premium (GWP) will result in an increase in the profitability of life insurance companies. This confirmed the findings of Kozak (2011) who revealed that the value of gross premiums is positive and a significant parameter of the profitability and efficiency of insurance companies' financial performance.

As presented in Table 4.5, there is a positive and insignificant relationship between liquidity and profitability (return on assets, ROA) of life insurance companies [ $\beta = 0.0305$ ,  $P < 0.635$ ] suggesting that a 1% increase in the liquidity of life insurance companies will result in an insignificant 3.05% increase in their profitability and return on assets (ROA). This result is in line with Eric, Samuel and Victor (2013) who also found positive relationship between liquidity and profitability of insurance firms. The results are also confirmed the findings of Almajali et al. (2012) who found that liquidity had significant positive effect on financial performance of insurance companies. Thus, all other things been equal, an increase in the liquidity position of the insurance companies will have direct impact on profitability in the sense that they will be able to invest surplus cash in order to earn more investment income which will help improve their bottom line and as such an increase in the return on assets (ROA) ratio.

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Table 4.5 reports positive and insignificant relationship between inflation and life insurance companies' return on assets. This is because increases in interest rate arising from high-inflationary pressures means that returns on investments will increase and as a result inflation has a positive effect on insurer's profitability due to high investment yields. The results contradict the findings of Pervan and Pavic (2010) who found a significant inverse relationship between inflation and profitability of insurance companies.

The table reports an adjusted R-squared of 0.6885 suggesting that the predictive variables employed in this study can at most predict about 68.85% of the profitability of life insurance companies (that is, return on assets) in this model.

**Table 4.6 Fixed-effects (within) regression (Dependent variable: ROA)**

ROA	Coefficient	Std. Error	t-statistics	P>t
<b>NON-LIFE</b>				
<b>Tangibility</b>	0.0635	0.0317	3.29	0.014**
<b>SIZE</b>	0.0243	0.0432	3.47	0.002***
<b>RR</b>	0.4685	0.0601	0.57	0.891
<b>LEVERAGE</b>	-0.0688	0.0437	-1.65	0.730
<b>GWP</b>	0.0361	0.0402	0.26	0.859
<b>Liquidity</b>	0.0305	0.0461	3.89	0.001***
<b>Inflation</b>	0.0236	0.0458	0.68	0.768
<b>INTERCEPT</b>	0.3817	0.0241	1.58	0.473

Note: F-Statistic = 7.67 (Prob > F = 0.089)

R-Squared =0.4865

Hausman Test: 4.35; P-value 0.201

**Keynotes: ROA = Return on assets; SIZE = size of insurance company; RR = Retention ratio; GWP = Gross written premium**

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Table 4.6 displays the Fixed-effects regression results for the variables employed in the study for non-life insurance companies. From Table 4.6, the results depict positive and significant relationship between tangibility and profitability of non-life insurance companies [ $\beta = 0.0635$ ,  $P < 0.014$ ] suggesting that fixed assets expressed as a ratio of total assets of non-life insurance companies can predict the profitability of non-life insurance companies employed in this study. The results imply that a 1% increase in the tangibility ratio of the insurance companies will results in a 6.35% increase in the return on assets (ROA) ratio of non-life insurance companies. Thus, a percentage increase in tangibility will have significant positive effect on non-life insurance firm's profitability (return on assets). All other things being equal any increase in fixed assets will affect total assets positively and this might increase the level of profitability (that is return on assets) of the non-life insurance companies. This finding is contrary to evidence of Eric, Samuel and Victor (2013) who found negative relationship between tangibility and profitability of insurance companies.

Table 4.6 reports a positive and significant relationship between non-life insurance companies size and profitability, that is return on assets of the insurance companies [ $\beta = 0.0243$ ,  $P < 0.002$ ] suggesting that 1% change in the total assets of non-life insurance companies would cause a corresponding increase of 2.43% in profitability (return on assets) of non-life insurance companies. Thus, as the size of non-life insurance companies' increases, they are able to attract more clients thereby increasing their gross premium income and this will be translated into an increase in their overall profitability and consequently an increase in their return on assets (ROA). This suggests that an increase in the size of non-life insurance companies will result in an increase in their profitability. This is because an increase in the size of non-life insurance companies could be in the form of increase in their cash surplus balance which can be invested in order to earn investment income thereby increasing their overall profitability. This is in line

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with the findings of Ahmed, Ahmed, and Ahmed, (2010) and Teece (2009) who noted in their studies that large firms can exploit economies of scale and scope and thus being more efficient compared to small firms. Similarly, Athanasoglou, Brissimis and Delis (2005) asserted that increase in insurance companies' size increases their financial performance. Almajali et al. (2012) also argued that the size of the firm can affect its financial performance. However, for firms that become exceptionally large, the effect of size could be negative due to bureaucratic and other reasons (Yuqi, 2007).

Table 4.6 shows positive and insignificant relationship between retention ratio (RR) and profitability of non-life insurance companies [ $\beta = 0.4685$ ,  $P < 0.891$ ]. Thus, an increase in retention ratio will results in an insignificant increase in the profitability of non-life insurance companies. This is in line with the findings of Ahmed, Ahmed, and Ahmed, (2010) who also concluded in their study that high retention ratio will result in high profitability because the net premium retain can be re-invested to earn extra income.

Table 4.6 shows a negative and insignificant relationship between non-life insurance companies' leverage ratio and profitability [ $\beta = -0.0688$   $P < 0.730$ ]. Thus, suggesting that 1% increase in the gearing ratio of non-life insurance companies would cause an insignificant decrease of 6.88% in their return on assets (ROA). This suggests that an increase in leverage will result in a decrease in profitability of non-life insurance companies. This result confirms the findings of Wabita (2013) who also concluded from his study that leverage of the insurance industry negatively affects financial performance.

As shown in Table 4.6, there is a positive and statistically insignificant relationship between gross written premium (GWP) and profitability (return on assets, ROA) of non-life insurance

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companies [ $\beta = 0.0361$ ,  $P < 0.859$ ] suggesting that a 1% increase in gross written premium of non-life insurance companies will result in an insignificant 3.61% increase in their profitability and return on assets (ROA). This suggests that an increase in gross written premium (GWP) will result in an increase in the profitability of non-life insurance companies. This confirmed the findings of Kozak (2011) who revealed that the value of gross premiums is positive and a significant parameter of the profitability and efficiency of insurance companies' financial performance.

As presented in Table 4.6, there is a positive and significant relationship between liquidity and profitability (return on assets, ROA) of non-life insurance companies [ $\beta = 0.0305$ ,  $P < 0.001$ ] suggesting that a 1% increase in the liquidity of non-life insurance companies will result in a 3.05% increase in their profitability and return on assets (ROA). This result is in line with Eric, Samuel and Victor (2013) who also found positive relationship between liquidity and profitability of insurance firms. The results are also confirmed the findings of Almajali et al. (2012) who found that liquidity had significant positive effect on financial performance of insurance companies. Thus, all other things being equal, an increase in the liquidity position of the insurance companies will have direct impact on profitability in the sense that they will be able to invest surplus cash in order to earn more investment income which will help improve their bottom line and as such an increase in the return on assets (ROA) ratio.

Table 4.6 reports positive and insignificant relationship between inflation and non-life insurance companies' return on assets. This is because increases in interest rate arising from high-inflationary pressures means that returns on investments will increase and as a result inflation has a positive effect on insurer's profitability due to high investment yields. The results contradict the findings of Pervan and Pavic (2010) who found a significant inverse relationship between inflation and profitability of insurance companies.

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The table reports an adjusted R-squared of 0.4865 suggesting that the predictive variables employed in this study can at most predict about 48.65% of the profitability of non-life insurance companies (that is, return on assets) in this model.

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## **CHAPTER FIVE**

### **SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATION**

#### **5.0 INTRODUCTION**

This chapter provides a summary of the main findings from the study and the conclusion drawn from the study as well as the policy implications resulting from the findings. It also covers the recommendations made based on the findings from the study and recommendation for further studies.

#### **5.1 SUMMARY OF MAIN FINDINGS**

The study finds evidence that tangibility, size, leverage, gross written premium (GWP) and liquidity of both life and non-life insurance companies are the predictors of their profitability suggesting that a rise in any of these predictive variables can have substantial influence on the profitability of the Ghanaian insurance companies employed in the study. The results revealed positive and significant relationship between tangibility and profitability of both life and non-life

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insurance companies suggesting that fixed assets expressed as a ratio of total assets of life and non-life insurance companies can predict their profitability. This implies that an increase in tangibility will have significant positive effect on life and non-life insurance firm's profitability (return on assets). All other things being equal any increase in fixed assets will affect total assets positively and this might increase the level of profitability (that is return on assets) of the insurance companies.

The findings also showed a positive and significant relationship between life and non-life insurance companies' size and return on assets. This suggests that as the size of life and non-life insurance companies' increases, they are able to attract more clients thereby increasing their gross premium income and this will be translated into an increase in their overall profitability and consequently an increase in their return on assets (ROA). Thus, an increase in the size of the insurance companies will result in an increase in their profitability. This is because large firms can exploit economies of scale and scope and thus being more efficient compared to small firms. However, for firms that become exceptionally large, the effect of size could be negative due to bureaucratic and other reasons.

The results further showed a negative and significant relationship between life and non-life insurance companies' leverage ratio and financial performance (return on assets). This suggests that an increase in leverage will result in a decrease in profitability of both life and non-life insurance companies.

The results showed positive and statistically significant relationship between gross written premium (GWP) and profitability (return on assets, ROA) of both life and non-life insurance companies. This suggests that an increase in gross written premium (GWP) will result in an

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increase in the profitability of both life and non-life insurance companies. This is because the value of gross premiums is positive and a significant parameter of the profitability and efficiency of insurance companies' financial performance.

The findings also show positive and significant relationship between liquidity and profitability of both life and non-life insurance companies. This is because liquidity has significant positive effect on financial performance of insurance companies. Thus, all other things been equal, an increase in the liquidity position of the insurance companies will have direct impact on profitability in the sense that they will be able to invest surplus cash in order to earn more investment income which will help improve their bottom line and as such an increase in the return on assets (ROA) ratio.

## **5.2 CONCLUSION**

This study examines the determinants of financial performance of the insurance industry in Ghana. The study employs annual financial data from 2012 to 2016 from ten insurance companies which underwrite all types of business policies in both life and non-life insurance. The study employs Random and Fixed effect regression analysis to predict the effect of the predictive variables on the financial performance of life and non-life insurance companies in Ghana. The study finds evidence that tangibility, size, leverage, gross written premium (GWP) and liquidity of both life and non-life insurance companies are the predictors of their profitability suggesting that a rise in any of these predictive variables can have substantial influence on the profitability of the Ghanaian insurance companies employed in the study. The results revealed positive and significant relationship between tangibility and profitability of both life and non-life insurance companies. The findings also showed a positive and significant relationship between life and non-life insurance companies' size and return on assets. The results showed positive and

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statistically significant relationship between gross written premium (GWP) and profitability (return on assets, ROA) of both life and non-life insurance companies. The findings also show positive and significant relationship between liquidity and profitability of both life and non-life insurance companies. The results however revealed a negative and significant relationship between life and non-life insurance companies' leverage ratio and financial performance (return on assets).

### **5.3 RECOMMENDATIONS**

Based on the findings of the study, the following policy recommendations are made;

Since there is positive relationship between tangibility and the financial performance of the insurance companies, it is recommended that insurance companies in Ghana should consider increasing their fixed assets based. This will have a positive influence on their financial performance because large asset base will make them more competitive and be able to explore a lot of opportunities. Large firms enjoy economies of scale and their average cost of production is low ensuring efficient operational activities. Large firms also face less difficulty in getting access to credit facilities from financial institutions, thus achieving greater strategic diversification.

Since there is a negative relationship between leverage and the financial performance of the insurance companies, it is recommended that both life and non-life insurance companies should minimize the level of debts they employ in financing their operations. Rather policies should be implemented to increase the amount of their gross written premium which has positive impact on their financial performance. This will also help improve upon their liquidity position their reducing their reliance on debt financing.

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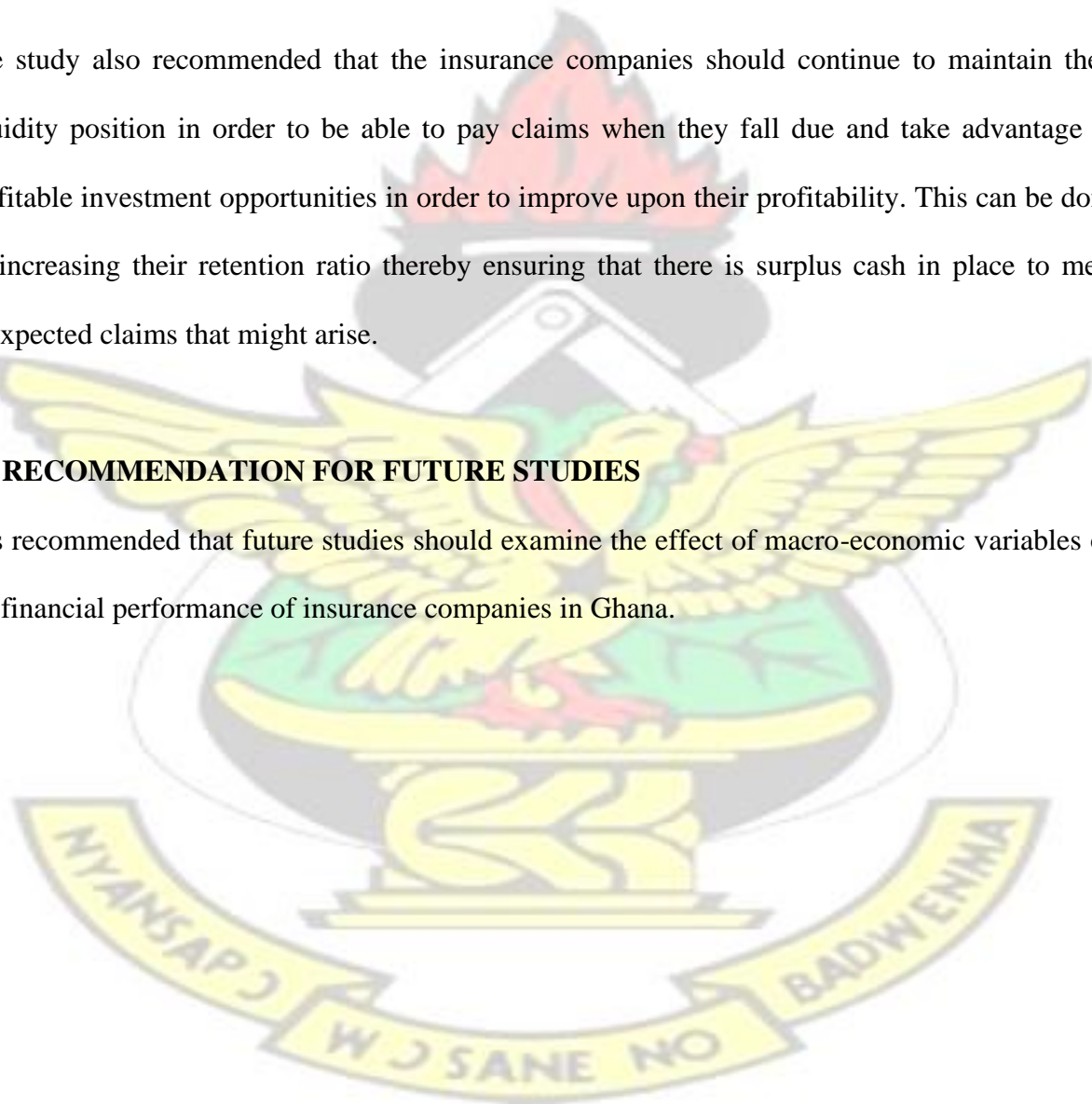
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The study further recommended that insurance companies should increase their assets base since size has a significant positive impact on their financial performance. Larger size will enable them to exploit economies of scale and scope and thus be more efficient. Increase of the organization's assets will improve the company's competitive power, which will facilitate its competitive edge in highly competitive markets.

The study also recommended that the insurance companies should continue to maintain their liquidity position in order to be able to pay claims when they fall due and take advantage of profitable investment opportunities in order to improve upon their profitability. This can be done by increasing their retention ratio thereby ensuring that there is surplus cash in place to meet unexpected claims that might arise.

#### **5.4 RECOMMENDATION FOR FUTURE STUDIES**

It is recommended that future studies should examine the effect of macro-economic variables on the financial performance of insurance companies in Ghana.



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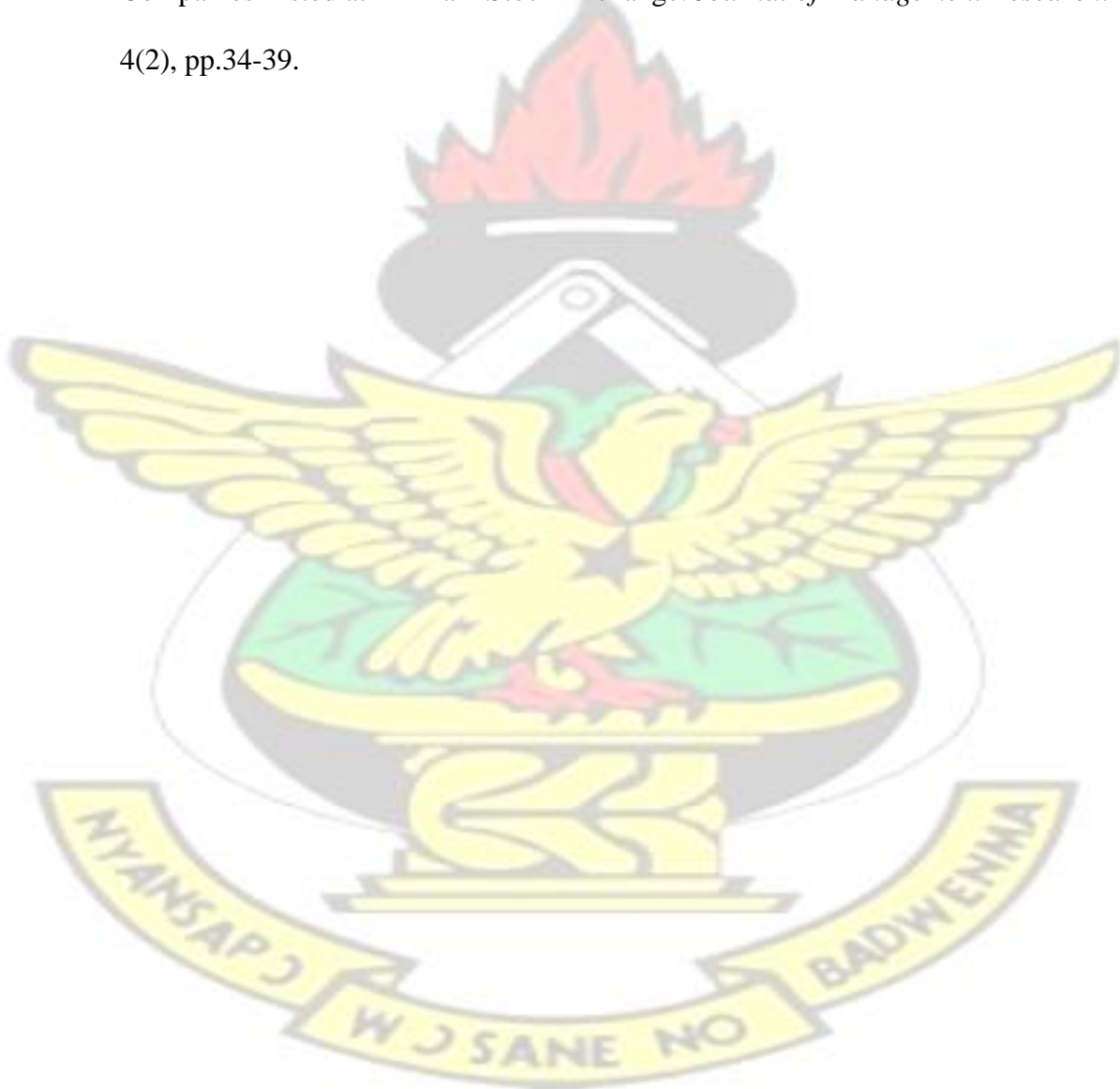
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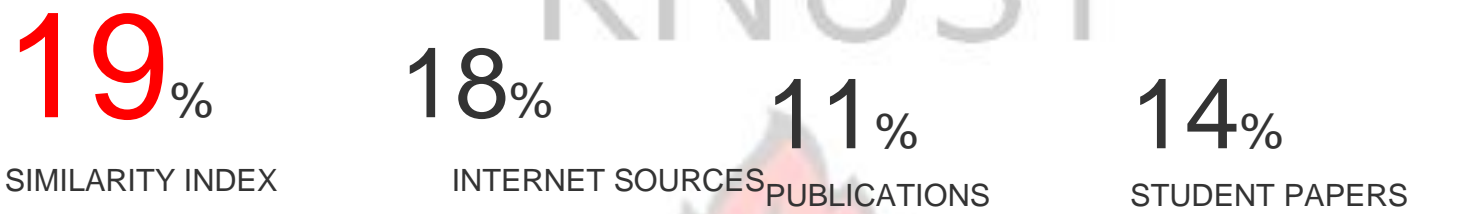
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